



APPENDIX A

Glossary of Terms



Glossary of Terms

A

ABOVE GROUND LEVEL: The elevation of a point or surface above the ground.

ACCELERATE-STOP DISTANCE AVAILABLE (ASDA): See declared distances.

ADVISORY CIRCULAR: External publications issued by the FAA consisting of nonregulatory material providing for the recommendations relative to a policy, guidance and information relative to a specific aviation subject.

AIR CARRIER: An operator which: (1) performs at least five round trips per week between two or more points and publishes flight schedules which specify the times, days of the week, and places between which such flights are performed; or (2) transports mail by air pursuant to a current contract with the U.S. Postal Service. Certified in accordance with Federal Aviation Regulation (FAR) Parts 121 and 127.

AIRCRAFT: A transportation vehicle that is used or intended for use for flight.

AIRCRAFT APPROACH CATEGORY: A grouping of aircraft based on 1.3 times the stall speed in their landing configuration at their maximum certificated landing weight. The categories are as follows:

- Category A: Speed less than 91 knots.
- Category B: Speed 91 knots or more, but less than 121 knots.
- Category C: Speed 121 knots or more, but less than 141 knots.
- Category D: Speed 141 knots or more, but less than 166 knots.
- Category E: Speed greater than 166 knots.

AIRCRAFT OPERATION: The landing, takeoff, or touch-and-go procedure by an aircraft on a runway at an airport.

AIRCRAFT OPERATIONS AREA (AOA): A restricted and secure area on the airport property designed to protect all aspects related to aircraft operations.

AIRCRAFT OWNERS AND PILOTS ASSOCIATION: A private organization serving the interests and needs of general aviation pilots and aircraft owners.

AIRCRAFT RESCUE AND FIRE FIGHTING: A facility located at an airport that provides emergency vehicles, extinguishing agents, and personnel responsible for minimizing the impacts of an aircraft accident or incident.

AIRFIELD: The portion of an airport which contains the facilities necessary for the operation of aircraft.

AIRLINE HUB: An airport at which an airline concentrates a significant portion of its activity and which often has a significant amount of connecting traffic.

AIRPLANE DESIGN GROUP (ADG): A grouping of aircraft based upon wingspan. The groups are as follows:

- Group I: Up to but not including 49 feet.
- Group II: 49 feet up to but not including 79 feet.
- Group III: 79 feet up to but not including 118 feet.
- Group IV: 118 feet up to but not including 171 feet.
- Group V: 171 feet up to but not including 214 feet.
- Group VI: 214 feet or greater.

AIRPORT AUTHORITY: A quasi-governmental public organization responsible for setting the policies governing the management and operation of an airport or system of airports under its jurisdiction.

AIRPORT BEACON: A navigational aid located at an airport which displays a rotating light beam to identify whether an airport is lighted.

AIRPORT CAPITAL IMPROVEMENT PLAN: The planning program used by the Federal Aviation Administration to identify, prioritize, and distribute funds for airport development and the needs of the National Airspace System to meet specified national goals and objectives.

AIRPORT ELEVATION: The highest point on the runway system at an airport expressed in feet above mean sea level (MSL).

AIRPORT IMPROVEMENT PROGRAM: A program authorized by the Airport and Airway Improvement Act of 1982 that provides funding for airport planning and development.

AIRPORT LAYOUT DRAWING (ALD): The drawing of the airport showing the layout of existing and proposed airport facilities.

AIRPORT LAYOUT PLAN (ALP): A scaled drawing of the existing and planned land and facilities necessary for the operation and development of the airport.

AIRPORT LAYOUT PLAN DRAWING SET: A set of technical drawings depicting the current and future airport conditions. The individual sheets comprising the set can vary with the complexities of the airport, but the FAA-required drawings include the Airport Layout Plan (sometimes referred to as the Airport Layout Drawing (ALD)), the Airport Airspace Drawing, and the Inner Portion of the Approach Surface Drawing, On-Airport Land Use Drawing, and Property Map.

AIRPORT MASTER PLAN: The planner's concept of the long-term development of an airport.

AIRPORT MOVEMENT AREA SAFETY SYSTEM: A system that provides automated alerts and warnings of potential runway incursions or other hazardous aircraft movement events.

AIRPORT OBSTRUCTION CHART: A scaled drawing depicting the Federal Aviation Regulation (FAR) Part 77 surfaces, a representation of objects that penetrate these surfaces, runway, taxiway, and ramp areas, navigational aids, buildings, roads and other detail in the vicinity of an airport.

AIRPORT REFERENCE CODE (ARC): A coding system used to relate airport design criteria to the operational (Aircraft Approach Category) to the physical characteristics (Airplane Design Group) of the airplanes intended to operate at the airport.

AIRPORT REFERENCE POINT (ARP): The latitude and longitude of the approximate center of the airport.

AIRPORT SPONSOR: The entity that is legally responsible for the management and operation of an airport, including the fulfillment of the requirements of laws and regulations related thereto.

AIRPORT SURFACE DETECTION EQUIPMENT: A radar system that provides air traffic controllers with a visual representation of the movement of aircraft and other vehicles on the ground on the airfield at an airport.

AIRPORT SURVEILLANCE RADAR: The primary radar located at an airport or in an air traffic control terminal area that receives a signal at an antenna and transmits the signal to air traffic control display equipment defining the location of aircraft in the air. The signal provides only the azimuth and range of aircraft from the location of the antenna.

AIRPORT TRAFFIC CONTROL TOWER (ATCT): A central operations facility in the terminal air traffic control system, consisting of a tower, including an associated instrument flight rule (IFR) room if radar equipped, using air/ground communications and/or radar, visual signaling and other devices to provide safe and expeditious movement of terminal air traffic.

AIR ROUTE TRAFFIC CONTROL CENTER: A facility which provides en route air traffic control service to aircraft operating on an IFR flight plan within controlled airspace over a large, multi-state region.

AIRSIDE: The portion of an airport that contains the facilities necessary for the operation of aircraft.

AIRSPACE: The volume of space above the surface of the ground that is provided for the operation of aircraft.

AIR TAXI: An air carrier certificated in accordance with FAR Part 121 and FAR Part 135 and authorized to provide, on demand, public transportation of persons and property by aircraft. Generally operates small aircraft "for hire" for specific trips.

AIR TRAFFIC CONTROL: A service operated by an appropriate organization for the purpose of providing for the safe, orderly, and expeditious flow of air traffic.

AIR ROUTE TRAFFIC CONTROL CENTER (ARTCC): A facility established to provide air traffic control service to aircraft operating on an IFR flight plan within controlled airspace and principally during the en route phase of flight.

AIR TRAFFIC CONTROL SYSTEM COMMAND CENTER: A facility operated by the FAA which is responsible for the central flow control, the central altitude reservation system, the airport reservation position system, and the air traffic service contingency command for the air traffic control system.

AIR TRAFFIC HUB: A categorization of commercial service airports or group of commercial service airports in a metropolitan or urban area based upon the proportion of annual national enplanements existing at the airport or airports. The categories are large hub, medium hub, small hub, or non-hub. It forms the basis for the apportionment of entitlement funds.

AIR TRANSPORT ASSOCIATION OF AMERICA: An organization consisting of the principal U.S. airlines that represents the interests of the airline industry on major aviation issues before federal, state, and local government bodies. It promotes air transportation safety by coordinating industry and governmental safety programs and it serves as a focal point for industry efforts to standardize practices and enhance the efficiency of the air transportation system.

ALERT AREA: See special-use airspace.

ALTITUDE: The vertical distance measured in feet above mean sea level.

ANNUAL INSTRUMENT APPROACH (AIA): An approach to an airport with the intent to land by an aircraft in accordance with an IFR flight plan when visibility is less than three miles and/or when the ceiling is at or below the minimum initial approach altitude.

APPROACH LIGHTING SYSTEM (ALS): An airport lighting facility which provides visual guidance to landing aircraft by radiating light beams by which the pilot aligns the aircraft with the extended centerline of the runway on his final approach and landing.

APPROACH MINIMUMS: The altitude below which an aircraft may not descend while on an IFR approach unless the pilot has the runway in sight.

APPROACH SURFACE: An imaginary obstruction limiting surface defined in FAR Part 77 which is longitudinally centered on an extended runway centerline and extends outward and upward from the primary surface at each end of a runway at a designated slope and distance based upon the type of available or planned approach by aircraft to a runway.

APRON: A specified portion of the airfield used for passenger, cargo or freight loading and unloading, aircraft parking, and the refueling, maintenance and servicing of aircraft.

AREA NAVIGATION: The air navigation procedure that provides the capability to establish and maintain a flight path on an arbitrary course that remains within the coverage area of navigational sources being used.

AUTOMATED TERMINAL INFORMATION SERVICE (ATIS): The continuous broadcast of recorded non-control information at towered airports. Information typically includes wind speed, direction, and runway in use.

AUTOMATED SURFACE OBSERVATION SYSTEM (ASOS): A reporting system that provides frequent airport ground surface weather observation data through digitized voice broadcasts and printed reports.

AUTOMATIC WEATHER OBSERVATION STATION (AWOS): Equipment used to automatically record weather conditions (i.e. cloud height, visibility, wind speed and direction, temperature, dew point, etc.)

AUTOMATIC DIRECTION FINDER (ADF): An aircraft radio navigation system which senses and indicates the direction to a non-directional radio beacon (NDB) ground transmitter.

AVIGATION EASEMENT: A contractual right or a property interest in land over which a right of unobstructed flight in the airspace is established.

AZIMUTH: Horizontal direction expressed as the angular distance between true north and the direction of a fixed point (as the observer's heading).

B

BASE LEG: A flight path at right angles to the landing runway off its approach end. The base leg normally extends from the downwind leg to the intersection of the extended runway centerline. See "traffic pattern."

BASED AIRCRAFT: The general aviation aircraft that use a specific airport as a home base.

BEARING: The horizontal direction to or from any point, usually measured clockwise from true north or magnetic north.

BLAST FENCE: A barrier used to divert or dissipate jet blast or propeller wash.

BLAST PAD: A prepared surface adjacent to the end of a runway for the purpose of eliminating the erosion of the ground surface by the wind forces produced by airplanes at the initiation of takeoff operations.

BUILDING RESTRICTION LINE (BRL): A line which identifies suitable building area locations on the airport.

C

CAPITAL IMPROVEMENT PLAN: The planning program used by the Federal Aviation Administration to identify, prioritize, and distribute Airport Improvement Program funds for airport development and the needs of the National Airspace System to meet specified national goals and objectives.

CARGO SERVICE AIRPORT: An airport served by aircraft providing air transportation of property only, including mail, with an annual aggregate landed weight of at least 100,000,000 pounds.

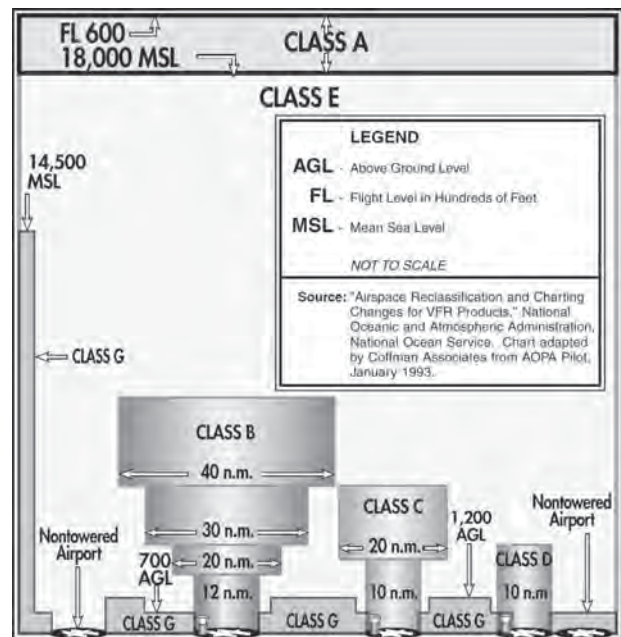
CATEGORY I: An Instrument Landing System (ILS) that provides acceptable guidance information to an aircraft from the coverage limits of the ILS to the point at which the localizer course line intersects the glide path at a decision height of 200 feet above the horizontal plane containing the runway threshold.

CATEGORY II: An ILS that provides acceptable guidance information to an aircraft from the coverage limits of the ILS to the point at which the localizer course line intersects the glide path at a decision height of 100 feet above the horizontal plane containing the runway threshold.

CATEGORY III: An ILS that provides acceptable guidance information to a pilot from the coverage limits of the ILS with no decision height specified above the horizontal plane containing the runway threshold.

CEILING: The height above the ground surface to the location of the lowest layer of clouds which is reported as either broken or overcast.

CIRCLING APPROACH: A maneuver initiated by the pilot to align the aircraft with the runway for landing when flying a predetermined circling instrument approach under IFR.



CLASS A AIRSPACE: See Controlled Airspace.

CLASS B AIRSPACE: See Controlled Airspace.

CLASS C AIRSPACE: See Controlled Airspace.

CLASS D AIRSPACE: See Controlled Airspace.

CLASS E AIRSPACE: See Controlled Airspace.

CLASS G AIRSPACE: See Controlled Airspace.

CLEAR ZONE: See Runway Protection Zone.

COMMERCIAL SERVICE AIRPORT: A public airport providing scheduled passenger service that enplanes at least 2,500 annual passengers.

COMMON TRAFFIC ADVISORY FREQUENCY: A radio frequency identified in the appropriate aeronautical chart which is designated for the purpose of transmitting airport advisory information and procedures while operating to or from an uncontrolled airport.

COMPASS LOCATOR (LOM): A low power, low/medium frequency radio-beacon installed in conjunction with the instrument landing system at one or two of the marker sites.

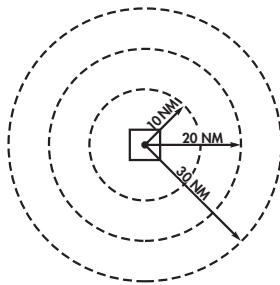
CONICAL SURFACE: An imaginary obstruction-limiting surface defined in FAR Part 77 that extends

from the edge of the horizontal surface outward and upward at a slope of 20 to 1 for a horizontal distance of 4,000 feet.

CONTROLLED AIRPORT: An airport that has an operating airport traffic control tower.

CONTROLLED AIRSPACE: Airspace of defined dimensions within which air traffic control services are provided to instrument flight rules (IFR) and visual flight rules (VFR) flights in accordance with the airspace classification. Controlled airspace in the United States is designated as follows:

- **CLASS A:** Generally, the airspace from 18,000 feet mean sea level (MSL) up to but not including flight level FL600. All persons must operate their aircraft under IFR.
- **CLASS B:**
Generally, the airspace from the surface to 10,000 feet MSL surrounding the nation's busiest airports. The configuration of Class B airspace is unique to each airport, but typically consists of two or more layers of air space and is designed to contain all published instrument approach procedures to the airport. An air traffic control clearance is required for all aircraft to operate in the area.
- **CLASS C:** Generally, the airspace from the surface to 4,000 feet above the airport elevation (charted as MSL) surrounding those airports that have an operational control tower and radar approach control and are served by a qualifying number of IFR operations or passenger enplanements. Although individually tailored for each airport, Class C airspace typically consists of a surface area with a five nautical mile (nm) radius and an outer area with a 10 nautical mile radius that extends from 1,200 feet to 4,000 feet above the airport elevation. Two-way radio communication is required for all aircraft.
- **CLASS D:** Generally, that airspace from the surface to 2,500 feet above the airport elevation (charted as MSL) surrounding those airports that have an operational control tower.



Class D airspace is individually tailored and configured to encompass published instrument approach procedure. Unless otherwise authorized, all persons must establish two-way radio communication.

- **CLASS E:** Generally, controlled airspace that is not classified as Class A, B, C, or D. Class E airspace extends upward from either the surface or a designated altitude to the overlying or adjacent controlled airspace. When designated as a surface area, the airspace will be configured to contain all instrument procedures. Class E airspace encompasses all Victor Airways. Only aircraft following instrument flight rules are required to establish two-way radio communication with air traffic control.
- **CLASS G:** Generally, that airspace not classified as Class A, B, C, D, or E. Class G airspace is uncontrolled for all aircraft. Class G airspace extends from the surface to the overlying Class E airspace.

CONTROLLED FIRING AREA: See special-use airspace.

CROSSWIND: A wind that is not parallel to a runway centerline or to the intended flight path of an aircraft.

CROSSWIND COMPONENT: The component of wind that is at a right angle to the runway centerline or the intended flight path of an aircraft.

CROSSWIND LEG: A flight path at right angles to the landing runway off its upwind end. See "traffic pattern."

D

DECIBEL: A unit of noise representing a level relative to a reference of a sound pressure 20 micro newtons per square meter.

DECISION HEIGHT/DECISION ALTITUDE: The height above the end of the runway surface at which a decision must be made by a pilot during the ILS or Precision Approach Radar approach to either continue the approach or to execute a missed approach.

DECLARED DISTANCES: The distances declared available for the airplane's takeoff runway, takeoff distance, accelerate-stop distance, and landing distance requirements. The distances are:

- **TAKEOFF RUNWAY AVAILABLE (TORA):** The runway length declared available and suitable for the ground run of an airplane taking off.
- **TAKEOFF DISTANCE AVAILABLE (TODA):** The TORA plus the length of any remaining runway and/or clear way beyond the far end of the TORA.
- **ACCELERATE-STOP DISTANCE AVAILABLE (ASDA):** The runway plus stopway length declared available for the acceleration and deceleration of an aircraft aborting a takeoff.
- **LANDING DISTANCE AVAILABLE (LDA):** The runway length declared available and suitable for landing.

DEPARTMENT OF TRANSPORTATION: The cabinet level federal government organization consisting of modal operating agencies, such as the Federal Aviation Administration, which was established to promote the coordination of federal transportation programs and to act as a focal point for research and development efforts in transportation.

DISCRETIONARY FUNDS: Federal grant funds that may be appropriated to an airport based upon designation by the Secretary of Transportation or Congress to meet a specified national priority such as enhancing capacity, safety, and security, or mitigating noise.

DISPLACED THRESHOLD: A threshold that is located at a point on the runway other than the designated beginning of the runway.

DISTANCE MEASURING EQUIPMENT (DME): Equipment (airborne and ground) used to measure, in nautical miles, the slant range distance of an aircraft from the DME navigational aid.

DNL: The 24-hour average sound level, in A-weighted decibels, obtained after the addition of ten decibels to sound levels for the periods between 10 p.m. and 7 a.m. as averaged over a span of one year. It is the FAA standard metric for determining the cumulative exposure of individuals to noise.

DOWNWIND LEG: A flight path parallel to the landing runway in the direction opposite to landing. The downwind leg normally extends between the crosswind leg and the base leg. Also see "traffic pattern."

E

EASEMENT: The legal right of one party to use a portion of the total rights in real estate owned by another party. This may include the right of passage over, on, or below the property; certain air rights above the property, including view rights; and the rights to any specified form of development or activity, as well as any other legal rights in the property that may be specified in the easement document.

ELEVATION: The vertical distance measured in feet above mean sea level.

ENPLANED PASSENGERS: The total number of revenue passengers boarding aircraft, including originating, stop-over, and transfer passengers, in scheduled and nonscheduled services.

ENPLANEMENT: The boarding of a passenger, cargo, freight, or mail on an aircraft at an airport.

ENTITLEMENT: Federal funds for which a commercial service airport may be eligible based upon its annual passenger enplanements.

ENVIRONMENTAL ASSESSMENT (EA): An environmental analysis performed pursuant to the National Environmental Policy Act to determine whether an action would significantly affect the environment and thus require a more detailed environmental impact statement.

ENVIRONMENTAL AUDIT: An assessment of the current status of a party's compliance with applicable environmental requirements of a party's environmental compliance policies, practices, and controls.

ENVIRONMENTAL IMPACT STATEMENT (EIS): A document required of federal agencies by the National Environmental Policy Act for major projects are legislative proposals affecting the environment. It is a tool for decision-making describing the positive and negative effects of a proposed action and citing alternative actions.

ESSENTIAL AIR SERVICE: A federal program which guarantees air carrier service to selected small cities by providing subsidies as needed to prevent these cities from such service.

F

FEDERAL AVIATION REGULATIONS: The general and permanent rules established by the executive departments and agencies of the Federal Government for aviation, which are published in the Federal Register. These are the aviation subset of the Code of Federal Regulations.

FEDERAL INSPECTION SERVICES: The provision of customs and immigration services including passport inspection, inspection of baggage, the collection of duties on certain imported items, and the inspections for agricultural products, illegal drugs, or other restricted items.

FINAL APPROACH: A flight path in the direction of landing along the extended runway centerline. The final approach normally extends from the base leg to the runway. See "traffic pattern."

FINAL APPROACH AND TAKEOFF AREA (FATO). A defined area over which the final phase of the helicopter approach to a hover, or a landing is completed and from which the takeoff is initiated.

FINAL APPROACH FIX: The designated point at which the final approach segment for an aircraft landing on a runway begins for a non-precision approach.

FINDING OF NO SIGNIFICANT IMPACT (FONSI): A public document prepared by a Federal agency that presents the rationale why a proposed action will not have a significant effect on the environment and for which an environmental impact statement will not be prepared.

FIXED BASE OPERATOR (FBO): A provider of services to users of an airport. Such services include, but are not limited to, hangaring, fueling, flight training, repair, and maintenance.

FLIGHT LEVEL: A measure of altitude used by aircraft flying above 18,000 feet. Flight levels are indicated by three digits representing the pressure altitude in hundreds of feet. An airplane flying at flight level 360 is flying at a pressure altitude of 36,000 feet. This is expressed as FL 360.

FLIGHT SERVICE STATION: An operations facility in the national flight advisory system which utilizes data interchange facilities for the collection and dissemination of Notices to Airmen, weather, and administrative data and which provides pre-flight

and in-flight advisory services to pilots through air and ground based communication facilities.

FRANGIBLE NAVAID: A navigational aid which retains its structural integrity and stiffness up to a designated maximum load, but on impact from a greater load, breaks, distorts, or yields in such a manner as to present the minimum hazard to aircraft.

G

GENERAL AVIATION: That portion of civil aviation which encompasses all facets of aviation except air carriers holding a certificate of convenience and necessity, and large aircraft commercial operators.

GENERAL AVIATION AIRPORT: An airport that provides air service to only general aviation.

GLIDESLOPE (GS): Provides vertical guidance for aircraft during approach and landing. The glideslope consists of the following:

1. Electronic components emitting signals which provide vertical guidance by reference to airborne instruments during instrument approaches such as ILS; or
2. Visual ground aids, such as VASI, which provide vertical guidance for VFR approach or for the visual portion of an instrument approach and landing.

GLOBAL POSITIONING SYSTEM (GPS): A system of 48 satellites used as reference points to enable navigators equipped with GPS receivers to determine their latitude, longitude, and altitude.

GROUND ACCESS: The transportation system on and around the airport that provides access to and from the airport by ground transportation vehicles for passengers, employees, cargo, freight, and airport services.

H

HELIPAD: A designated area for the takeoff, landing, and parking of helicopters.

HIGH INTENSITY RUNWAY LIGHTS: The highest classification in terms of intensity or brightness for lights designated for use in delineating the sides of a runway.

HIGH-SPEED EXIT TAXIWAY: A long radius taxiway designed to expedite aircraft turning off the runway after landing (at speeds to 60 knots), thus reducing runway occupancy time.

HORIZONTAL SURFACE: An imaginary obstruction-limiting surface defined in FAR Part 77 that is specified as a portion of a horizontal plane surrounding a runway located 150 feet above the established airport elevation. The specific horizontal dimensions of this surface are a function of the types of approaches existing or planned for the runway.

I

INITIAL APPROACH FIX: The designated point at which the initial approach segment begins for an instrument approach to a runway.

INSTRUMENT APPROACH PROCEDURE: A series of predetermined maneuvers for the orderly transfer of an aircraft under instrument flight conditions from the beginning of the initial approach to a landing, or to a point from which a landing may be made visually.

INSTRUMENT FLIGHT RULES (IFR): Procedures for the conduct of flight in weather conditions below Visual Flight Rules weather minimums. The term IFR is often also used to define weather conditions and the type of flight plan under which an aircraft is operating.

INSTRUMENT LANDING SYSTEM (ILS): A precision instrument approach system which normally consists of the following electronic components and visual aids:

1. Localizer.
2. Glide Slope.
3. Outer Marker.
4. Middle Marker.
5. Approach Lights.

INSTRUMENT METEOROLOGICAL CONDITIONS: Meteorological conditions expressed in terms of specific visibility and ceiling conditions that are less than the minimums specified for visual meteorological conditions.

ITINERANT OPERATIONS: Operations by aircraft that are not based at a specified airport.

K

KNOTS: A unit of speed length used in navigation that is equivalent to the number of nautical miles traveled in one hour.

L

LANDSIDE: The portion of an airport that provides the facilities necessary for the processing of passengers, cargo, freight, and ground transportation vehicles.

LANDING DISTANCE AVAILABLE (LDA): See declared distances.

LARGE AIRPLANE: An airplane that has a maximum certified takeoff weight in excess of 12,500 pounds.

LOCAL AREA AUGMENTATION SYSTEM: A differential GPS system that provides localized measurement correction signals to the basic GPS signals to improve navigational accuracy integrity, continuity, and availability.

LOCAL OPERATIONS: Aircraft operations performed by aircraft that are based at the airport and that operate in the local traffic pattern or within sight of the airport, that are known to be departing for or arriving from flights in local practice areas within a prescribed distance from the airport, or that execute simulated instrument approaches at the airport.

LOCAL TRAFFIC: Aircraft operating in the traffic pattern or within sight of the tower, or aircraft known to be departing or arriving from the local practice areas, or aircraft executing practice instrument approach procedures. Typically, this includes touch and-go training operations.

LOCALIZER: The component of an ILS which provides course guidance to the runway.

LOCALIZER TYPE DIRECTIONAL AID (LDA): A facility of comparable utility and accuracy to a localizer, but is not part of a complete ILS and is not aligned with the runway.

LONG RANGE NAVIGATION SYSTEM (LORAN): Long range navigation is an electronic navigational aid which determines aircraft position and speed by measuring the difference in the time of reception of synchronized pulse signals from two fixed transmitters. Loran is used for en route navigation.

LOW INTENSITY RUNWAY LIGHTS: The lowest classification in terms of intensity or brightness for lights designated for use in delineating the sides of a runway.

M

MEDIUM INTENSITY RUNWAY LIGHTS: The middle classification in terms of intensity or brightness for lights designated for use in delineating the sides of a runway.

MICROWAVE LANDING SYSTEM (MLS): An instrument approach and landing system that provides precision guidance in azimuth, elevation, and distance measurement.

MILITARY OPERATIONS: Aircraft operations that are performed in military airspace.

MILITARY OPERATIONS AREA (MOA): See special-use airspace

MILITARY TRAINING ROUTE: An air route depicted on aeronautical charts for the conduct of military flight training at speeds above 250 knots.

MISSED APPROACH COURSE (MAC): The flight route to be followed if, after an instrument approach, a landing is not affected, and occurring normally:

1. When the aircraft has descended to the decision height and has not established visual contact; or
2. When directed by air traffic control to pull up or to go around again.

MOVEMENT AREA: The runways, taxiways, and other areas of an airport which are utilized for taxiing/hover taxiing, air taxiing, takeoff, and landing of aircraft, exclusive of loading ramps and parking areas. At those airports with a tower, air traffic control clearance is required for entry onto the movement area.

N

NATIONAL AIRSPACE SYSTEM: The network of air traffic control facilities, air traffic control areas, and navigational facilities through the U.S.

NATIONAL PLAN OF INTEGRATED AIRPORT SYSTEMS: The national airport system plan developed by the Secretary of Transportation on a biannual basis for the development of public use airports to meet national air transportation needs.

NATIONAL TRANSPORTATION SAFETY BOARD: A federal government organization established to investigate and determine the probable cause of transportation accidents, to recommend equipment and procedures to enhance transportation safety, and to review on appeal the suspension or revocation of any certificates or licenses issued by the Secretary of Transportation.

NAUTICAL MILE: A unit of length used in navigation which is equivalent to the distance spanned by one minute of arc in latitude, that is, 1,852 meters or 6,076 feet. It is equivalent to approximately 1.15 statute mile.

NAVAID: A term used to describe any electrical or visual air navigational aids, lights, signs, and associated supporting equipment (i.e. PAPI, VASI, ILS, etc.)

NAVIGATIONAL AID: A facility used as, available for use as, or designed for use as an aid to air navigation.

NOISE CONTOUR: A continuous line on a map of the airport vicinity connecting all points of the same noise exposure level.

NON-DIRECTIONAL BEACON (NDB): A beacon transmitting nondirectional signals whereby the pilot of an aircraft equipped with direction finding equipment can determine his or her bearing to and from the radio beacon and home on, or track to, the station. When the radio beacon is installed in conjunction with the Instrument Landing System marker, it is normally called a Compass Locator.

NON-PRECISION APPROACH PROCEDURE: A standard instrument approach procedure in which no electronic glide slope is provided, such as VOR, TACAN, NDB, or LOC.

NOTICE TO AIRMEN: A notice containing information concerning the establishment, condition, or change in any component of or hazard in the National Airspace System, the timely knowledge of which is considered essential to personnel concerned with flight operations.

O

OBJECT FREE AREA (OFA): An area on the ground centered on a runway, taxiway, or taxilane centerline provided to enhance the safety of aircraft operations by having the area free of objects, except for objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes.

OBSTACLE FREE ZONE (OFZ): The airspace below 150 feet above the established airport elevation and along the runway and extended runway centerline that is required to be kept clear of all objects, except for frangible visual NAVAIDs that need to be located in the OFZ because of their function, in order to provide clearance for aircraft landing or taking off from the runway, and for missed approaches.

ONE-ENGINE INOPERABLE SURFACE: A surface emanating from the runway end at a slope ratio of 62.5:1. Air carrier airports are required to maintain a technical drawing of this surface depicting any object penetrations by January 1, 2010.

OPERATION: The take-off, landing, or touch-and-go procedure by an aircraft on a runway at an airport.

OUTER MARKER (OM): An ILS navigation facility in the terminal area navigation system located four to seven miles from the runway edge on the extended centerline, indicating to the pilot that he/she is passing over the facility and can begin final approach.

P

PILOT CONTROLLED LIGHTING: Runway lighting systems at an airport that are controlled by activating the microphone of a pilot on a specified radio frequency.

PRECISION APPROACH: A standard instrument approach procedure which provides runway alignment and glide slope (descent) information. It is categorized as follows:

- **CATEGORY I (CAT I):** A precision approach which provides for approaches with a decision height of not less than 200 feet and visibility not less than 1/2 mile or Runway Visual Range (RVR) 2400 (RVR 1800) with operative touchdown zone and runway centerline lights.

- **CATEGORY II (CAT II):** A precision approach which provides for approaches with a decision height of not less than 100 feet and visibility not less than 1200 feet RVR.

- **CATEGORY III (CAT III):** A precision approach which provides for approaches with minima less than Category II.

PRECISION APPROACH PATH INDICATOR (PAPI): A lighting system providing visual approach slope guidance to aircraft during a landing approach. It is similar to a VASI but provides a sharper transition between the colored indicator lights.

PRECISION APPROACH RADAR: A radar facility in the terminal air traffic control system used to detect and display with a high degree of accuracy the direction, range, and elevation of an aircraft on the final approach to a runway.

PRECISION OBJECT FREE AREA (POFA): An area centered on the extended runway centerline, beginning at the runway threshold and extending behind the runway threshold that is 200 feet long by 800 feet wide. The POFA is a clearing standard which requires the POFA to be kept clear of above ground objects protruding above the runway safety area edge elevation (except for frangible NAVAIDs). The POFA applies to all new authorized instrument approach procedures with less than 3/4 mile visibility.

PRIMARY AIRPORT: A commercial service airport that enplanes at least 10,000 annual passengers.

PRIMARY SURFACE: An imaginary obstruction limiting surface defined in FAR Part 77 that is specified as a rectangular surface longitudinally centered about a runway. The specific dimensions of this surface are a function of the types of approaches existing or planned for the runway.

PROHIBITED AREA: See special-use airspace.

PVC: Poor visibility and ceiling. Used in determining Annual Service Volume. PVC conditions exist when the cloud ceiling is less than 500 feet and visibility is less than one mile.

R

RADIAL: A navigational signal generated by a Very High Frequency Omni-directional Range or VORTAC station that is measured as an azimuth from the station.

REGRESSION ANALYSIS: A statistical technique that seeks to identify and quantify the relationships between factors associated with a forecast.

REMOTE COMMUNICATIONS OUTLET (RCO): An unstaffed transmitter receiver/facility remotely controlled by air traffic personnel. RCOs serve flight service stations (FSSs). RCOs were established to provide ground-to-ground communications between air traffic control specialists and pilots at satellite airports for delivering en route clearances, issuing departure authorizations, and acknowledging instrument flight rules cancellations or departure/landing times.

REMOTE TRANSMITTER/RECEIVER (RTR): See remote communications outlet. RTRs serve ARTCCs.

RELIEVER AIRPORT: An airport to serve general aviation aircraft which might otherwise use a congested air-carrier served airport.

RESTRICTED AREA: See special-use airspace.

RNAV: Area navigation - airborne equipment which permits flights over determined tracks within prescribed accuracy tolerances without the need to overfly ground-based navigation facilities. Used en route and for approaches to an airport.

RUNWAY: A defined rectangular area on an airport prepared for aircraft landing and takeoff. Runways are normally numbered in relation to their magnetic direction, rounded off to the nearest 10 degrees. For example, a runway with a magnetic heading of 180 would be designated Runway 18. The runway heading on the opposite end of the runway is 180 degrees from that runway end. For example, the opposite runway heading for Runway 18 would be Runway 36 (magnetic heading of 360). Aircraft can takeoff or land from either end of a runway, depending upon wind direction.

RUNWAY ALIGNMENT INDICATOR LIGHT: A series of high intensity sequentially flashing lights installed

on the extended centerline of the runway usually in conjunc. on with an approach lighting system.

RUNWAY DESIGN CODE: A code signifying the design standards to which the runway is to be built.

RUNWAY END IDENTIFICATION LIGHTING (REIL): Two synchronized flashing lights, one on each side of the runway threshold, which provide rapid and positive identification of the approach end of a particular runway.

RUNWAY GRADIENT: The average slope, measured in percent, between the two ends of a runway.

RUNWAY PROTECTION ZONE (RPZ): An area off the runway end to enhance the protection of people and property on the ground. The RPZ is trapezoidal in shape. Its dimensions are determined by the aircraft approach speed and runway approach type and minima.

RUNWAY REFERENCE CODE: A code signifying the current operational capabilities of a runway and associated taxiway.

RUNWAY SAFETY AREA (RSA): A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway.

RUNWAY VISIBILITY ZONE (RVZ): An area on the airport to be kept clear of permanent objects so that there is an unobstructed line of sight from any point five feet above the runway centerline to any point five feet above an intersecting runway centerline.

RUNWAY VISUAL RANGE (RVR): An instrumentally derived value, in feet, representing the horizontal distance a pilot can see down the runway from the runway end.

S

SCOPE: The document that identifies and defines the tasks, emphasis, and level of effort associated with a project or study.

SEGMENTED CIRCLE: A system of visual indicators designed to provide traffic pattern information at airports without operating control towers.

SHOULDER: An area adjacent to the edge of paved runways, taxiways, or aprons providing a transi. on between the pavement and the adjacent surface; support for aircraft running off the pavement; enhanced drainage; and blast protection. The shoulder does not necessarily need to be paved.

SLANT-RANGE DISTANCE: The straight line distance between an aircraft and a point on the ground.

SMALL AIRCRAFT: An aircraft that has a maximum certified takeoff weight of up to 12,500 pounds.

SPECIAL-USE AIRSPACE: Airspace of defined dimensions identified by a surface area wherein activities must be confined because of their nature and/or wherein limitations may be imposed upon aircraft operations that are not a part of those activities. Special-use airspace classifications include:

- **ALERT AREA:** Airspace which may contain a high volume of pilot training activities or an unusual type of aerial activity, neither of which is hazardous to aircraft.
- **CONTROLLED FIRING AREA:** Airspace wherein activities are conducted under conditions so controlled as to eliminate hazards to nonparticipating aircraft and to ensure the safety of persons or property on the ground.
- **MILITARY OPERATIONS AREA (MOA):** Designated airspace with defined vertical and lateral dimensions established outside Class A airspace to separate/segregate certain military activities from instrument flight rule (IFR) traffic and to identify for visual flight rule (VFR) traffic where these activities are conducted.
- **PROHIBITED AREA:** Designated airspace within which the flight of aircraft is prohibited.
- **RESTRICTED AREA:** Airspace designated under Federal Aviation Regulation (FAR) 73, within which the flight of aircraft, while not wholly prohibited, is subject to restriction. Most restricted areas are designated joint use. When not in use by the using agency, IFR/VFR operations can be authorized by the controlling air traffic control facility.
- **WARNING AREA:** Airspace which may contain hazards to nonparticipating aircraft.

STANDARD INSTRUMENT DEPARTURE (SID): A preplanned coded air traffic control IFR departure routing, preprinted for pilot use in graphic and textual form only.

STANDARD INSTRUMENT DEPARTURE PROCEDURES: A published standard flight procedure to be utilized following takeoff to provide a transition between the airport and the terminal area or en route airspace.

STANDARD TERMINAL ARRIVAL ROUTE (STAR): A preplanned coded air traffic control IFR arrival routing, preprinted for pilot use in graphic and textual or textual form only.

STOP-AND-GO: A procedure wherein an aircraft will land, make a complete stop on the runway, and then commence a takeoff from that point. A stop-and-go is recorded as two operations: one operation for the landing and one operation for the takeoff.

STOPWAY: An area beyond the end of a takeoff runway that is designed to support an aircraft during an aborted takeoff without causing structural damage to the aircraft. It is not to be used for takeoff, landing, or taxiing by aircraft.

STRAIGHT-IN LANDING/APPROACH: A landing made on a runway aligned within 30 degrees of the final approach course following completion of an instrument approach.

T

TACTICAL AIR NAVIGATION (TACAN): An ultrahigh frequency electronic air navigation system which provides suitably-equipped aircraft a continuous indication of bearing and distance to the TACAN station.

TAKEOFF RUNWAY AVAILABLE (TORA):
See declared distances.

TAKEOFF DISTANCE AVAILABLE (TODA):
See declared distances.

TAXILANE: The portion of the aircraft parking area used for access between taxiways and aircraft parking positions.

TAXIWAY: A defined path established for the taxiing of aircraft from one part of an airport to another.

TAXIWAY DESIGN GROUP: A classification of airplanes based on outer to outer Main Gear Width (MGW) and Cockpit to Main Gear (CMG) distance.

TAXIWAY SAFETY AREA (TSA): A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway.

TERMINAL INSTRUMENT PROCEDURES: Published flight procedures for conducting instrument approaches to runways under instrument meteorological conditions.

TERMINAL RADAR APPROACH CONTROL: An element of the air traffic control system responsible for monitoring the en-route and terminal segment of air traffic in the airspace surrounding airports with moderate to high levels of air traffic.

TETRAHEDRON: A device used as a landing direction indicator. The small end of the tetrahedron points in the direction of landing.

THRESHOLD: The beginning of that portion of the runway available for landing. In some instances the landing threshold may be displaced.

TOUCH-AND-GO: An operation by an aircraft that lands and departs on a runway without stopping or exiting the runway. A touch-and go is recorded as two operations: one operation for the landing and one operation for the takeoff.

TOUCHDOWN: The point at which a landing aircraft makes contact with the runway surface.

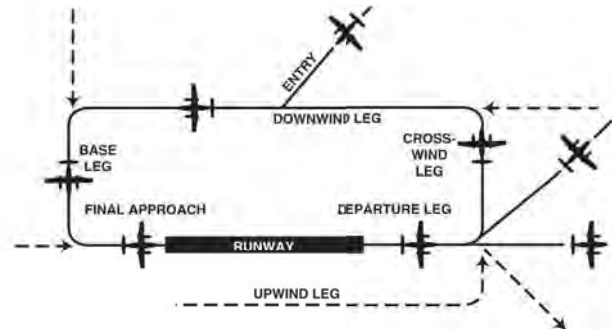
TOUCHDOWN AND LIFT-OFF AREA (TLOF): A load bearing, generally paved area, normally centered in the FATO, on which the helicopter lands or takes off.

TOUCHDOWN ZONE (TDZ): The first 3,000 feet of the runway beginning at the threshold.

TOUCHDOWN ZONE ELEVATION (TDZE): The highest elevation in the touchdown zone.

TOUCHDOWN ZONE (TDZ) LIGHTING: Two rows of transverse light bars located symmetrically about the runway centerline normally at 100-foot intervals. The basic system extends 3,000 feet along the runway.

TRAFFIC PATTERN: The traffic flow that is prescribed for aircraft landing at or taking off from an airport. The components of a typical traffic pattern are the upwind leg, crosswind leg, downwind leg, base leg, and final approach.



U

UNCONTROLLED AIRPORT: An airport without an air traffic control tower at which the control of Visual Flight Rules traffic is not exercised.

UNCONTROLLED AIRSPACE: Airspace within which aircraft are not subject to air traffic control.

UNIVERSAL COMMUNICATION (UNICOM): A nongovernment communication facility which may provide airport information at certain airports. Locations and frequencies of UNICOM's are shown on aeronautical charts and publications.

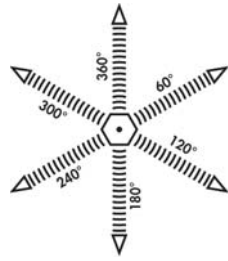
UPWIND LEG: A flight path parallel to the landing runway in the direction of landing. See "traffic pattern."

V

VECTOR: A heading issued to an aircraft to provide navigational guidance by radar.

VERY HIGH FREQUENCY/ OMNIDIRECTIONAL RANGE (VOR): A ground-based electronic navigation aid transmitting very high frequency navigation signals, 360 degrees in azimuth, oriented from magnetic north. Used as the basis for navigation in the national airspace system. The VOR periodically identifies itself by Morse Code and may have an additional voice identification feature.

VERY HIGH FREQUENCY OMNI-DIRECTIONAL RANGE/TACTICAL AIR NAVIGATION (VORTAC): A navigational aid providing VOR azimuth, TACAN azimuth, and TACAN distance-measuring equipment (DME) at one site.



VICTOR AIRWAY: A control area or portion thereof established in the form of a corridor, the centerline of which is defined by radio navigational aids.

VISUAL APPROACH: An approach wherein an aircraft on an IFR flight plan, operating in VFR conditions under the control of an air traffic control facility and having an air traffic control authorization, may proceed to the airport of destination in VFR conditions.

VISUAL APPROACH SLOPE INDICATOR (VASI): An airport lighting facility providing vertical visual approach slope guidance to aircraft during approach to landing by radiating a directional pattern of high intensity red and white focused light beams which indicate to the pilot that he is on path if he sees red/white, above path if white/white, and below path if red/red. Some airports serving large aircraft have three-bar VASI's which provide two visual guide paths to the same runway.

VISUAL FLIGHT RULES (VFR): Rules that govern the procedures for conducting flight under visual conditions. The term VFR is also used in the United States to indicate weather conditions that are equal to or greater than minimum VFR requirements. In addition, it is used by pilots and controllers to indicate type of flight plan.

VISUAL METEOROLOGICAL CONDITIONS: Meteorological conditions expressed in terms of specific visibility and ceiling conditions which are equal to or greater than the threshold values for instrument meteorological conditions.

VOR: See "Very High Frequency Omnidirectional Range Station."

VORTAC: See "Very High Frequency Omnidirectional Range Station/Tactical Air Navigation."

W

WARNING AREA: See special-use airspace.

WIDE AREA AUGMENTATION SYSTEM: An enhancement of the Global Positioning System that includes integrity broadcasts, differential corrections, and additional ranging signals for the purpose of providing the accuracy, integrity, availability, and continuity required to support all phases of flight.

Abbreviations

AC: advisory circular

ADF: automatic direction finder

ADG: airplane design group

AFSS: automated flight service station

AGL: above ground level

AIA: annual instrument approach

AIP: Airport Improvement Program

AIR-21: Wendell H. Ford Aviation Investment and Reform Act for the 21st Century

ALS: approach lighting system

ALSF-1: standard 2,400-foot high intensity approach lighting system with sequenced flashers (CAT I configuration)

ALSF-2: standard 2,400-foot high intensity approach lighting system with sequenced flashers (CAT II configuration)

AOA: Aircraft Operation Area

APV: instrument approach procedure with vertical guidance

ARC: airport reference code

ARFF: aircra. rescue and fire fighting	ILS: instrument landing system
ARP: airport reference point	IM: inner marker
ARTCC: air route traffic control center	LDA: localizer type directional aid
ASDA: accelerate-stop distance available	LDA: landing distance available
ASR: airport surveillance radar	LIRL: low intensity runway edge lighting
ASOS: automated surface observation station	LMM: compass locator at middle marker
ATCT: airport traffic control tower	LOM: compass locator at outer marker
ATIS: automated terminal information service	LORAN: long range navigation
AVGAS: aviation gasoline - typically 100 low lead (100LL)	MALS: medium intensity approach lighting system with indicator lights
AWOS: automatic weather observation station	MIRL: medium intensity runway edge lighting
BRL: building restriction line	MITL: medium intensity taxiway edge lighting
CFR: Code of Federal Regulation	MLS: microwave landing system
CIP: capital improvement program	MM: middle marker
DME: distance measuring equipment	MOA: military operations area
DNL: day-night noise level	MSL: mean sea level
DWL: runway weight bearing capacity of aircraft with dual-wheel type landing gear	NAVAID: navigational aid
DTWL: runway weight bearing capacity of aircraft with dual-tandem type landing gear	NDB: nondirectional radio beacon
FAA: Federal Aviation Administration	NM: nautical mile (6,076.1 feet)
FAR: Federal Aviation Regulation	NPES: National Pollutant Discharge Elimination System
FBO: fixed base operator	NPIAS: National Plan of Integrated Airport Systems
FY: fiscal year	NPRM: notice of proposed rule making
GPS: global positioning system	ODALS: omnidirectional approach lighting system
GS: glide slope	OFA: object free area
HIRL: high intensity runway edge lighting	OFZ: obstacle free zone
IFR: instrument flight rules (FAR Part 91)	OM: outer marker

PAC: planning advisory commi. ee	SID: standard instrument departure
PAPI: precision approach path indicator	SM: statute mile (5,280 feet)
PFC: porous friction course	SRE: snow removal equipment
PFC: passenger facility charge	SSALF: simplified short approach lighting system with runway alignment indicator lights
PCL: pilot-controlled lighting	STAR: standard terminal arrival route
PIW: public information workshop	SWL: runway weight bearing capacity for aircraft with single-wheel tandem type landing gear
PLASI: pulsating visual approach slope indicator	TACAN: tactical air navigational aid
POFA: precision object free area	TAF: Federal Aviation Administration (FAA) Terminal Area Forecast
PVASI: pulsating/steady visual approach slope indicator	TDG: Taxiway Design Group
PVC: poor visibility and ceiling	TLOF: Touchdown and lift-off
RCO: remote communications outlet	TDZ: touchdown zone
RRC: Runway Reference Code	TDZE: touchdown zone elevation
RDC: Runway Design Code	TODA: takeoff distance available
REIL: runway end identification lighting	TORA: takeoff runway available
RNAV: area navigation	TRACON: terminal radar approach control
RPZ: runway protection zone	VASI: visual approach slope indicator
RSA: runway safety area	VFR: visual flight rules (FAR Part 91)
RTR: remote transmitter/receiver	VHF: very high frequency
RVR: runway visibility range	VOR: very high frequency omni-directional range
RVZ: runway visibility zone	VORTAC: VOR and TACAN collocated
SALS: short approach lighting system	
SASP: state aviation system plan	
SEL: sound exposure level	



APPENDIX B

Grant Assurances





ASSURANCES

Airport Sponsors

A. General.

1. These assurances shall be complied with in the performance of grant agreements for airport development, airport planning, and noise compatibility program grants for airport sponsors.
2. These assurances are required to be submitted as part of the project application by sponsors requesting funds under the provisions of Title 49, U.S.C., subtitle VII, as amended. As used herein, the term "public agency sponsor" means a public agency with control of a public-use airport; the term "private sponsor" means a private owner of a public-use airport; and the term "sponsor" includes both public agency sponsors and private sponsors.
3. Upon acceptance of this grant offer by the sponsor, these assurances are incorporated in and become part of this grant agreement.

B. Duration and Applicability.

1. **Airport development or Noise Compatibility Program Projects Undertaken by a Public Agency Sponsor.**

The terms, conditions and assurances of this grant agreement shall remain in full force and effect throughout the useful life of the facilities developed or equipment acquired for an airport development or noise compatibility program project, or throughout the useful life of the project items installed within a facility under a noise compatibility program project, but in any event not to exceed twenty (20) years from the date of acceptance of a grant offer of Federal funds for the project. However, there shall be no limit on the duration of the assurances regarding Exclusive Rights and Airport Revenue so long as the airport is used as an airport. There shall be no limit on the duration of the terms, conditions, and assurances with respect to real property acquired with federal funds. Furthermore, the duration of the Civil Rights assurance shall be specified in the assurances.

2. **Airport Development or Noise Compatibility Projects Undertaken by a Private Sponsor.**

The preceding paragraph 1 also applies to a private sponsor except that the useful life of project items installed within a facility or the useful life of the facilities developed or equipment acquired under an airport development or noise compatibility program project shall be no less than ten (10) years from the date of acceptance of Federal aid for the project.

3. Airport Planning Undertaken by a Sponsor.

Unless otherwise specified in this grant agreement, only Assurances 1, 2, 3, 5, 6, 13, 18, 25, 30, 32, 33, and 34 in Section C apply to planning projects. The terms, conditions, and assurances of this grant agreement shall remain in full force and effect during the life of the project; there shall be no limit on the duration of the assurances regarding Airport Revenue so long as the airport is used as an airport.

C. Sponsor Certification.

The sponsor hereby assures and certifies, with respect to this grant that:

1. General Federal Requirements.

It will comply with all applicable Federal laws, regulations, executive orders, policies, guidelines, and requirements as they relate to the application, acceptance and use of Federal funds for this project including but not limited to the following:

Federal Legislation

- a. Title 49, U.S.C., subtitle VII, as amended.
- b. Davis-Bacon Act - 40 U.S.C. 276(a), et seq.¹
- c. Federal Fair Labor Standards Act - 29 U.S.C. 201, et seq.
- d. Hatch Act – 5 U.S.C. 1501, et seq.²
- e. Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 Title 42 U.S.C. 4601, et seq.^{1 2}
- f. National Historic Preservation Act of 1966 - Section 106 - 16 U.S.C. 470(f).¹
- g. Archeological and Historic Preservation Act of 1974 - 16 U.S.C. 469 through 469c.¹
- h. Native Americans Grave Repatriation Act - 25 U.S.C. Section 3001, et seq.
- i. Clean Air Act, P.L. 90-148, as amended.
- j. Coastal Zone Management Act, P.L. 93-205, as amended.
- k. Flood Disaster Protection Act of 1973 - Section 102(a) - 42 U.S.C. 4012a.¹
- l. Title 49, U.S.C., Section 303, (formerly known as Section 4(f))
- m. Rehabilitation Act of 1973 - 29 U.S.C. 794.
- n. Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252) (prohibits discrimination on the basis of race, color, national origin);
- o. Americans with Disabilities Act of 1990, as amended, (42 U.S.C. § 12101 et seq.), prohibits discrimination on the basis of disability).
- p. Age Discrimination Act of 1975 - 42 U.S.C. 6101, et seq.
- q. American Indian Religious Freedom Act, P.L. 95-341, as amended.
- r. Architectural Barriers Act of 1968 -42 U.S.C. 4151, et seq.¹
- s. Power plant and Industrial Fuel Use Act of 1978 - Section 403- 2 U.S.C. 8373.¹
- t. Contract Work Hours and Safety Standards Act - 40 U.S.C. 327, et seq.¹
- u. Copeland Anti-kickback Act - 18 U.S.C. 874.1
- v. National Environmental Policy Act of 1969 - 42 U.S.C. 4321, et seq.¹
- w. Wild and Scenic Rivers Act, P.L. 90-542, as amended.
- x. Single Audit Act of 1984 - 31 U.S.C. 7501, et seq.²
- y. Drug-Free Workplace Act of 1988 - 41 U.S.C. 702 through 706.

- z. The Federal Funding Accountability and Transparency Act of 2006, as amended (Pub. L. 109-282, as amended by section 6202 of Pub. L. 110-252).

Executive Orders

- a. Executive Order 11246 - Equal Employment Opportunity¹
- b. Executive Order 11990 - Protection of Wetlands
- c. Executive Order 11998 – Flood Plain Management
- d. Executive Order 12372 - Intergovernmental Review of Federal Programs
- e. Executive Order 12699 - Seismic Safety of Federal and Federally Assisted New Building Construction¹
- f. Executive Order 12898 - Environmental Justice

Federal Regulations

- a. 2 CFR Part 180 - OMB Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement).
- b. 2 CFR Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. [OMB Circular A-87 Cost Principles Applicable to Grants and Contracts with State and Local Governments, and OMB Circular A-133 - Audits of States, Local Governments, and Non-Profit Organizations].^{4, 5, 6}
- c. 2 CFR Part 1200 – Nonprocurement Suspension and Debarment
- d. 14 CFR Part 13 - Investigative and Enforcement Procedures 14 CFR Part 16 - Rules of Practice For Federally Assisted Airport Enforcement Proceedings.
- e. 14 CFR Part 150 - Airport noise compatibility planning.
- f. 28 CFR Part 35- Discrimination on the Basis of Disability in State and Local Government Services.
- g. 28 CFR § 50.3 - U.S. Department of Justice Guidelines for Enforcement of Title VI of the Civil Rights Act of 1964.
- h. 29 CFR Part 1 - Procedures for predetermination of wage rates.¹
- i. 29 CFR Part 3 - Contractors and subcontractors on public building or public work financed in whole or part by loans or grants from the United States.¹
- j. 29 CFR Part 5 - Labor standards provisions applicable to contracts covering federally financed and assisted construction (also labor standards provisions applicable to non-construction contracts subject to the Contract Work Hours and Safety Standards Act).¹
- k. 41 CFR Part 60 - Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor (Federal and federally assisted contracting requirements).¹
- l. 49 CFR Part 18 - Uniform administrative requirements for grants and cooperative agreements to state and local governments.³
- m. 49 CFR Part 20 - New restrictions on lobbying.
- n. 49 CFR Part 21 – Nondiscrimination in federally-assisted programs of the Department of Transportation - effectuation of Title VI of the Civil Rights Act of 1964.
- o. 49 CFR Part 23 - Participation by Disadvantage Business Enterprise in Airport Concessions.

- p. 49 CFR Part 24 – Uniform Relocation Assistance and Real Property Acquisition for Federal and Federally Assisted Programs.^{1 2}
- q. 49 CFR Part 26 – Participation by Disadvantaged Business Enterprises in Department of Transportation Programs.
- r. 49 CFR Part 27 – Nondiscrimination on the Basis of Handicap in Programs and Activities Receiving or Benefiting from Federal Financial Assistance.¹
- s. 49 CFR Part 28 – Enforcement of Nondiscrimination on the Basis of Handicap in Programs or Activities conducted by the Department of Transportation.
- t. 49 CFR Part 30 - Denial of public works contracts to suppliers of goods and services of countries that deny procurement market access to U.S. contractors.
- u. 49 CFR Part 32 – Governmentwide Requirements for Drug-Free Workplace (Financial Assistance)
- v. 49 CFR Part 37 – Transportation Services for Individuals with Disabilities (ADA).
- w. 49 CFR Part 41 - Seismic safety of Federal and federally assisted or regulated new building construction.

Specific Assurances

Specific assurances required to be included in grant agreements by any of the above laws, regulations or circulars are incorporated by reference in this grant agreement.

Footnotes to Assurance C.1.

¹ These laws do not apply to airport planning sponsors.

² These laws do not apply to private sponsors.

³ 49 CFR Part 18 and 2 CFR Part 200 contain requirements for State and Local Governments receiving Federal assistance. Any requirement levied upon State and Local Governments by this regulation and circular shall also be applicable to private sponsors receiving Federal assistance under Title 49, United States Code.

⁴ On December 26, 2013 at 78 FR 78590, the Office of Management and Budget (OMB) issued the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards in 2 CFR Part 200. 2 CFR Part 200 replaces and combines the former Uniform Administrative Requirements for Grants (OMB Circular A-102 and Circular A-110 or 2 CFR Part 215 or Circular) as well as the Cost Principles (Circulars A-21 or 2 CFR part 220; Circular A-87 or 2 CFR part 225; and A-122, 2 CFR part 230). Additionally it replaces Circular A-133 guidance on the Single Annual Audit. In accordance with 2 CFR section 200.110, the standards set forth in Part 200 which affect administration of Federal awards issued by Federal agencies become effective once implemented by Federal agencies or when any future amendment to this Part becomes final. Federal agencies, including the Department of Transportation, must implement the policies and procedures applicable to Federal awards by promulgating a regulation to be effective by December 26, 2014 unless different provisions are required by statute or approved by OMB.

⁵ Cost principles established in 2 CFR part 200 subpart E must be used as guidelines for determining the eligibility of specific types of expenses.

⁶ Audit requirements established in 2 CFR part 200 subpart F are the guidelines for audits.

2. Responsibility and Authority of the Sponsor.

a. Public Agency Sponsor:

It has legal authority to apply for this grant, and to finance and carry out the proposed project; that a resolution, motion or similar action has been duly adopted or passed as an official act of the applicant's governing body authorizing the filing of the application, including all understandings and assurances contained therein, and directing and authorizing the person identified as the official representative of the applicant to act in connection with the application and to provide such additional information as may be required.

b. Private Sponsor:

It has legal authority to apply for this grant and to finance and carry out the proposed project and comply with all terms, conditions, and assurances of this grant agreement. It shall designate an official representative and shall in writing direct and authorize that person to file this application, including all understandings and assurances contained therein; to act in connection with this application; and to provide such additional information as may be required.

3. Sponsor Fund Availability.

It has sufficient funds available for that portion of the project costs which are not to be paid by the United States. It has sufficient funds available to assure operation and maintenance of items funded under this grant agreement which it will own or control.

4. Good Title.

- a. It, a public agency or the Federal government, holds good title, satisfactory to the Secretary, to the landing area of the airport or site thereof, or will give assurance satisfactory to the Secretary that good title will be acquired.
- b. For noise compatibility program projects to be carried out on the property of the sponsor, it holds good title satisfactory to the Secretary to that portion of the property upon which Federal funds will be expended or will give assurance to the Secretary that good title will be obtained.

5. Preserving Rights and Powers.

- a. It will not take or permit any action which would operate to deprive it of any of the rights and powers necessary to perform any or all of the terms, conditions, and assurances in this grant agreement without the written approval of the Secretary, and will act promptly to acquire, extinguish or modify any outstanding rights or claims of right of others which would interfere with such performance by the sponsor. This shall be done in a manner acceptable to the Secretary.

- b. It will not sell, lease, encumber, or otherwise transfer or dispose of any part of its title or other interests in the property shown on Exhibit A to this application or, for a noise compatibility program project, that portion of the property upon which Federal funds have been expended, for the duration of the terms, conditions, and assurances in this grant agreement without approval by the Secretary. If the transferee is found by the Secretary to be eligible under Title 49, United States Code, to assume the obligations of this grant agreement and to have the power, authority, and financial resources to carry out all such obligations, the sponsor shall insert in the contract or document transferring or disposing of the sponsor's interest, and make binding upon the transferee all of the terms, conditions, and assurances contained in this grant agreement.
- c. For all noise compatibility program projects which are to be carried out by another unit of local government or are on property owned by a unit of local government other than the sponsor, it will enter into an agreement with that government. Except as otherwise specified by the Secretary, that agreement shall obligate that government to the same terms, conditions, and assurances that would be applicable to it if it applied directly to the FAA for a grant to undertake the noise compatibility program project. That agreement and changes thereto must be satisfactory to the Secretary. It will take steps to enforce this agreement against the local government if there is substantial non-compliance with the terms of the agreement.
- d. For noise compatibility program projects to be carried out on privately owned property, it will enter into an agreement with the owner of that property which includes provisions specified by the Secretary. It will take steps to enforce this agreement against the property owner whenever there is substantial non-compliance with the terms of the agreement.
- e. If the sponsor is a private sponsor, it will take steps satisfactory to the Secretary to ensure that the airport will continue to function as a public-use airport in accordance with these assurances for the duration of these assurances.
- f. If an arrangement is made for management and operation of the airport by any agency or person other than the sponsor or an employee of the sponsor, the sponsor will reserve sufficient rights and authority to insure that the airport will be operated and maintained in accordance Title 49, United States Code, the regulations and the terms, conditions and assurances in this grant agreement and shall insure that such arrangement also requires compliance therewith.
- g. Sponsors of commercial service airports will not permit or enter into any arrangement that results in permission for the owner or tenant of a property used as a residence, or zoned for residential use, to taxi an aircraft between that property and any location on airport. Sponsors of general aviation airports entering into any arrangement that results in permission for the owner of residential real property adjacent to or near the airport must comply with the requirements of Sec. 136 of Public Law 112-95 and the sponsor assurances.

6. Consistency with Local Plans.

The project is reasonably consistent with plans (existing at the time of submission of this application) of public agencies that are authorized by the State in which the project is located to plan for the development of the area surrounding the airport.

7. Consideration of Local Interest.

It has given fair consideration to the interest of communities in or near where the project may be located.

8. Consultation with Users.

In making a decision to undertake any airport development project under Title 49, United States Code, it has undertaken reasonable consultations with affected parties using the airport at which project is proposed.

9. Public Hearings.

In projects involving the location of an airport, an airport runway, or a major runway extension, it has afforded the opportunity for public hearings for the purpose of considering the economic, social, and environmental effects of the airport or runway location and its consistency with goals and objectives of such planning as has been carried out by the community and it shall, when requested by the Secretary, submit a copy of the transcript of such hearings to the Secretary. Further, for such projects, it has on its management board either voting representation from the communities where the project is located or has advised the communities that they have the right to petition the Secretary concerning a proposed project.

10. Metropolitan Planning Organization.

In projects involving the location of an airport, an airport runway, or a major runway extension at a medium or large hub airport, the sponsor has made available to and has provided upon request to the metropolitan planning organization in the area in which the airport is located, if any, a copy of the proposed amendment to the airport layout plan to depict the project and a copy of any airport master plan in which the project is described or depicted.

11. Pavement Preventive Maintenance.

With respect to a project approved after January 1, 1995, for the replacement or reconstruction of pavement at the airport, it assures or certifies that it has implemented an effective airport pavement maintenance-management program and it assures that it will use such program for the useful life of any pavement constructed, reconstructed or repaired with Federal financial assistance at the airport. It will provide such reports on pavement condition and pavement management programs as the Secretary determines may be useful.

12. Terminal Development Prerequisites.

For projects which include terminal development at a public use airport, as defined in Title 49, it has, on the date of submittal of the project grant application, all the safety equipment required for certification of such airport under section 44706 of Title 49, United States Code, and all the security equipment required by rule or regulation, and

has provided for access to the passenger enplaning and deplaning area of such airport to passengers enplaning and deplaning from aircraft other than air carrier aircraft.

13. Accounting System, Audit, and Record Keeping Requirements.

- a. It shall keep all project accounts and records which fully disclose the amount and disposition by the recipient of the proceeds of this grant, the total cost of the project in connection with which this grant is given or used, and the amount or nature of that portion of the cost of the project supplied by other sources, and such other financial records pertinent to the project. The accounts and records shall be kept in accordance with an accounting system that will facilitate an effective audit in accordance with the Single Audit Act of 1984.
- b. It shall make available to the Secretary and the Comptroller General of the United States, or any of their duly authorized representatives, for the purpose of audit and examination, any books, documents, papers, and records of the recipient that are pertinent to this grant. The Secretary may require that an appropriate audit be conducted by a recipient. In any case in which an independent audit is made of the accounts of a sponsor relating to the disposition of the proceeds of a grant or relating to the project in connection with which this grant was given or used, it shall file a certified copy of such audit with the Comptroller General of the United States not later than six (6) months following the close of the fiscal year for which the audit was made.

14. Minimum Wage Rates.

It shall include, in all contracts in excess of \$2,000 for work on any projects funded under this grant agreement which involve labor, provisions establishing minimum rates of wages, to be predetermined by the Secretary of Labor, in accordance with the Davis-Bacon Act, as amended (40 U.S.C. 276a-276a-5), which contractors shall pay to skilled and unskilled labor, and such minimum rates shall be stated in the invitation for bids and shall be included in proposals or bids for the work.

15. Veteran's Preference.

It shall include in all contracts for work on any project funded under this grant agreement which involve labor, such provisions as are necessary to insure that, in the employment of labor (except in executive, administrative, and supervisory positions), preference shall be given to Vietnam era veterans, Persian Gulf veterans, Afghanistan-Iraq war veterans, disabled veterans, and small business concerns owned and controlled by disabled veterans as defined in Section 47112 of Title 49, United States Code. However, this preference shall apply only where the individuals are available and qualified to perform the work to which the employment relates.

16. Conformity to Plans and Specifications.

It will execute the project subject to plans, specifications, and schedules approved by the Secretary. Such plans, specifications, and schedules shall be submitted to the Secretary prior to commencement of site preparation, construction, or other performance under this grant agreement, and, upon approval of the Secretary, shall be incorporated into this grant agreement. Any modification to the approved plans,

specifications, and schedules shall also be subject to approval of the Secretary, and incorporated into this grant agreement.

17. Construction Inspection and Approval.

It will provide and maintain competent technical supervision at the construction site throughout the project to assure that the work conforms to the plans, specifications, and schedules approved by the Secretary for the project. It shall subject the construction work on any project contained in an approved project application to inspection and approval by the Secretary and such work shall be in accordance with regulations and procedures prescribed by the Secretary. Such regulations and procedures shall require such cost and progress reporting by the sponsor or sponsors of such project as the Secretary shall deem necessary.

18. Planning Projects.

In carrying out planning projects:

- a. It will execute the project in accordance with the approved program narrative contained in the project application or with the modifications similarly approved.
- b. It will furnish the Secretary with such periodic reports as required pertaining to the planning project and planning work activities.
- c. It will include in all published material prepared in connection with the planning project a notice that the material was prepared under a grant provided by the United States.
- d. It will make such material available for examination by the public, and agrees that no material prepared with funds under this project shall be subject to copyright in the United States or any other country.
- e. It will give the Secretary unrestricted authority to publish, disclose, distribute, and otherwise use any of the material prepared in connection with this grant.
- f. It will grant the Secretary the right to disapprove the sponsor's employment of specific consultants and their subcontractors to do all or any part of this project as well as the right to disapprove the proposed scope and cost of professional services.
- g. It will grant the Secretary the right to disapprove the use of the sponsor's employees to do all or any part of the project.
- h. It understands and agrees that the Secretary's approval of this project grant or the Secretary's approval of any planning material developed as part of this grant does not constitute or imply any assurance or commitment on the part of the Secretary to approve any pending or future application for a Federal airport grant.

19. Operation and Maintenance.

- a. The airport and all facilities which are necessary to serve the aeronautical users of the airport, other than facilities owned or controlled by the United States, shall be operated at all times in a safe and serviceable condition and in accordance with the minimum standards as may be required or prescribed by applicable Federal,

state and local agencies for maintenance and operation. It will not cause or permit any activity or action thereon which would interfere with its use for airport purposes. It will suitably operate and maintain the airport and all facilities thereon or connected therewith, with due regard to climatic and flood conditions. Any proposal to temporarily close the airport for non-aeronautical purposes must first be approved by the Secretary. In furtherance of this assurance, the sponsor will have in effect arrangements for-

- 1) Operating the airport's aeronautical facilities whenever required;
 - 2) Promptly marking and lighting hazards resulting from airport conditions, including temporary conditions; and
 - 3) Promptly notifying airmen of any condition affecting aeronautical use of the airport. Nothing contained herein shall be construed to require that the airport be operated for aeronautical use during temporary periods when snow, flood or other climatic conditions interfere with such operation and maintenance. Further, nothing herein shall be construed as requiring the maintenance, repair, restoration, or replacement of any structure or facility which is substantially damaged or destroyed due to an act of God or other condition or circumstance beyond the control of the sponsor.
- b. It will suitably operate and maintain noise compatibility program items that it owns or controls upon which Federal funds have been expended.

20. Hazard Removal and Mitigation.

It will take appropriate action to assure that such terminal airspace as is required to protect instrument and visual operations to the airport (including established minimum flight altitudes) will be adequately cleared and protected by removing, lowering, relocating, marking, or lighting or otherwise mitigating existing airport hazards and by preventing the establishment or creation of future airport hazards.

21. Compatible Land Use.

It will take appropriate action, to the extent reasonable, including the adoption of zoning laws, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including landing and takeoff of aircraft. In addition, if the project is for noise compatibility program implementation, it will not cause or permit any change in land use, within its jurisdiction, that will reduce its compatibility, with respect to the airport, of the noise compatibility program measures upon which Federal funds have been expended.

22. Economic Nondiscrimination.

- a. It will make the airport available as an airport for public use on reasonable terms and without unjust discrimination to all types, kinds and classes of aeronautical activities, including commercial aeronautical activities offering services to the public at the airport.
- b. In any agreement, contract, lease, or other arrangement under which a right or privilege at the airport is granted to any person, firm, or corporation to conduct or

to engage in any aeronautical activity for furnishing services to the public at the airport, the sponsor will insert and enforce provisions requiring the contractor to-

- 1) furnish said services on a reasonable, and not unjustly discriminatory, basis to all users thereof, and
 - 2) charge reasonable, and not unjustly discriminatory, prices for each unit or service, provided that the contractor may be allowed to make reasonable and nondiscriminatory discounts, rebates, or other similar types of price reductions to volume purchasers.
- c. Each fixed-based operator at the airport shall be subject to the same rates, fees, rentals, and other charges as are uniformly applicable to all other fixed-based operators making the same or similar uses of such airport and utilizing the same or similar facilities.
 - d. Each air carrier using such airport shall have the right to service itself or to use any fixed-based operator that is authorized or permitted by the airport to serve any air carrier at such airport.
 - e. Each air carrier using such airport (whether as a tenant, non-tenant, or subtenant of another air carrier tenant) shall be subject to such nondiscriminatory and substantially comparable rules, regulations, conditions, rates, fees, rentals, and other charges with respect to facilities directly and substantially related to providing air transportation as are applicable to all such air carriers which make similar use of such airport and utilize similar facilities, subject to reasonable classifications such as tenants or non-tenants and signatory carriers and non-signatory carriers. Classification or status as tenant or signatory shall not be unreasonably withheld by any airport provided an air carrier assumes obligations substantially similar to those already imposed on air carriers in such classification or status.
 - f. It will not exercise or grant any right or privilege which operates to prevent any person, firm, or corporation operating aircraft on the airport from performing any services on its own aircraft with its own employees [including, but not limited to maintenance, repair, and fueling] that it may choose to perform.
 - g. In the event the sponsor itself exercises any of the rights and privileges referred to in this assurance, the services involved will be provided on the same conditions as would apply to the furnishing of such services by commercial aeronautical service providers authorized by the sponsor under these provisions.
 - h. The sponsor may establish such reasonable, and not unjustly discriminatory, conditions to be met by all users of the airport as may be necessary for the safe and efficient operation of the airport.
 - i. The sponsor may prohibit or limit any given type, kind or class of aeronautical use of the airport if such action is necessary for the safe operation of the airport or necessary to serve the civil aviation needs of the public.

23. Exclusive Rights.

It will permit no exclusive right for the use of the airport by any person providing, or intending to provide, aeronautical services to the public. For purposes of this paragraph, the providing of the services at an airport by a single fixed-based operator shall not be construed as an exclusive right if both of the following apply:

- a. It would be unreasonably costly, burdensome, or impractical for more than one fixed-based operator to provide such services, and
- b. If allowing more than one fixed-based operator to provide such services would require the reduction of space leased pursuant to an existing agreement between such single fixed-based operator and such airport. It further agrees that it will not, either directly or indirectly, grant or permit any person, firm, or corporation, the exclusive right at the airport to conduct any aeronautical activities, including, but not limited to charter flights, pilot training, aircraft rental and sightseeing, aerial photography, crop dusting, aerial advertising and surveying, air carrier operations, aircraft sales and services, sale of aviation petroleum products whether or not conducted in conjunction with other aeronautical activity, repair and maintenance of aircraft, sale of aircraft parts, and any other activities which because of their direct relationship to the operation of aircraft can be regarded as an aeronautical activity, and that it will terminate any exclusive right to conduct an aeronautical activity now existing at such an airport before the grant of any assistance under Title 49, United States Code.

24. Fee and Rental Structure.

It will maintain a fee and rental structure for the facilities and services at the airport which will make the airport as self-sustaining as possible under the circumstances existing at the particular airport, taking into account such factors as the volume of traffic and economy of collection. No part of the Federal share of an airport development, airport planning or noise compatibility project for which a grant is made under Title 49, United States Code, the Airport and Airway Improvement Act of 1982, the Federal Airport Act or the Airport and Airway Development Act of 1970 shall be included in the rate basis in establishing fees, rates, and charges for users of that airport.

25. Airport Revenues.

- a. All revenues generated by the airport and any local taxes on aviation fuel established after December 30, 1987, will be expended by it for the capital or operating costs of the airport; the local airport system; or other local facilities which are owned or operated by the owner or operator of the airport and which are directly and substantially related to the actual air transportation of passengers or property; or for noise mitigation purposes on or off the airport. The following exceptions apply to this paragraph:
 - 1) If covenants or assurances in debt obligations issued before September 3, 1982, by the owner or operator of the airport, or provisions enacted before September 3, 1982, in governing statutes controlling the owner or operator's financing, provide for the use of the revenues from any of the airport owner or

operator's facilities, including the airport, to support not only the airport but also the airport owner or operator's general debt obligations or other facilities, then this limitation on the use of all revenues generated by the airport (and, in the case of a public airport, local taxes on aviation fuel) shall not apply.

- 2) If the Secretary approves the sale of a privately owned airport to a public sponsor and provides funding for any portion of the public sponsor's acquisition of land, this limitation on the use of all revenues generated by the sale shall not apply to certain proceeds from the sale. This is conditioned on repayment to the Secretary by the private owner of an amount equal to the remaining unamortized portion (amortized over a 20-year period) of any airport improvement grant made to the private owner for any purpose other than land acquisition on or after October 1, 1996, plus an amount equal to the federal share of the current fair market value of any land acquired with an airport improvement grant made to that airport on or after October 1, 1996.
 - 3) Certain revenue derived from or generated by mineral extraction, production, lease, or other means at a general aviation airport (as defined at Section 47102 of title 49 United States Code), if the FAA determines the airport sponsor meets the requirements set forth in Sec. 813 of Public Law 112-95.
- b. As part of the annual audit required under the Single Audit Act of 1984, the sponsor will direct that the audit will review, and the resulting audit report will provide an opinion concerning, the use of airport revenue and taxes in paragraph (a), and indicating whether funds paid or transferred to the owner or operator are paid or transferred in a manner consistent with Title 49, United States Code and any other applicable provision of law, including any regulation promulgated by the Secretary or Administrator.
 - c. Any civil penalties or other sanctions will be imposed for violation of this assurance in accordance with the provisions of Section 47107 of Title 49, United States Code.

26. Reports and Inspections.

It will:

- a. submit to the Secretary such annual or special financial and operations reports as the Secretary may reasonably request and make such reports available to the public; make available to the public at reasonable times and places a report of the airport budget in a format prescribed by the Secretary;
- b. for airport development projects, make the airport and all airport records and documents affecting the airport, including deeds, leases, operation and use agreements, regulations and other instruments, available for inspection by any duly authorized agent of the Secretary upon reasonable request;
- c. for noise compatibility program projects, make records and documents relating to the project and continued compliance with the terms, conditions, and assurances of this grant agreement including deeds, leases, agreements, regulations, and other instruments, available for inspection by any duly authorized agent of the Secretary upon reasonable request; and

- d. in a format and time prescribed by the Secretary, provide to the Secretary and make available to the public following each of its fiscal years, an annual report listing in detail:
 - 1) all amounts paid by the airport to any other unit of government and the purposes for which each such payment was made; and
 - 2) all services and property provided by the airport to other units of government and the amount of compensation received for provision of each such service and property.

27. Use by Government Aircraft.

It will make available all of the facilities of the airport developed with Federal financial assistance and all those usable for landing and takeoff of aircraft to the United States for use by Government aircraft in common with other aircraft at all times without charge, except, if the use by Government aircraft is substantial, charge may be made for a reasonable share, proportional to such use, for the cost of operating and maintaining the facilities used. Unless otherwise determined by the Secretary, or otherwise agreed to by the sponsor and the using agency, substantial use of an airport by Government aircraft will be considered to exist when operations of such aircraft are in excess of those which, in the opinion of the Secretary, would unduly interfere with use of the landing areas by other authorized aircraft, or during any calendar month that –

- a. Five (5) or more Government aircraft are regularly based at the airport or on land adjacent thereto; or
- b. The total number of movements (counting each landing as a movement) of Government aircraft is 300 or more, or the gross accumulative weight of Government aircraft using the airport (the total movement of Government aircraft multiplied by gross weights of such aircraft) is in excess of five million pounds.

28. Land for Federal Facilities.

It will furnish without cost to the Federal Government for use in connection with any air traffic control or air navigation activities, or weather-reporting and communication activities related to air traffic control, any areas of land or water, or estate therein, or rights in buildings of the sponsor as the Secretary considers necessary or desirable for construction, operation, and maintenance at Federal expense of space or facilities for such purposes. Such areas or any portion thereof will be made available as provided herein within four months after receipt of a written request from the Secretary.

29. Airport Layout Plan.

- a. It will keep up to date at all times an airport layout plan of the airport showing
 - 1) boundaries of the airport and all proposed additions thereto, together with the boundaries of all offsite areas owned or controlled by the sponsor for airport purposes and proposed additions thereto;
 - 2) the location and nature of all existing and proposed airport facilities and structures (such as runways, taxiways, aprons, terminal buildings, hangars and

roads), including all proposed extensions and reductions of existing airport facilities;

- 3) the location of all existing and proposed nonaviation areas and of all existing improvements thereon; and
 - 4) all proposed and existing access points used to taxi aircraft across the airport's property boundary. Such airport layout plans and each amendment, revision, or modification thereof, shall be subject to the approval of the Secretary which approval shall be evidenced by the signature of a duly authorized representative of the Secretary on the face of the airport layout plan. The sponsor will not make or permit any changes or alterations in the airport or any of its facilities which are not in conformity with the airport layout plan as approved by the Secretary and which might, in the opinion of the Secretary, adversely affect the safety, utility or efficiency of the airport.
- b. If a change or alteration in the airport or the facilities is made which the Secretary determines adversely affects the safety, utility, or efficiency of any federally owned, leased, or funded property on or off the airport and which is not in conformity with the airport layout plan as approved by the Secretary, the owner or operator will, if requested, by the Secretary (1) eliminate such adverse effect in a manner approved by the Secretary; or (2) bear all costs of relocating such property (or replacement thereof) to a site acceptable to the Secretary and all costs of restoring such property (or replacement thereof) to the level of safety, utility, efficiency, and cost of operation existing before the unapproved change in the airport or its facilities except in the case of a relocation or replacement of an existing airport facility due to a change in the Secretary's design standards beyond the control of the airport sponsor.

30. Civil Rights.

It will promptly take any measures necessary to ensure that no person in the United States shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination in any activity conducted with, or benefiting from, funds received from this grant.

- a. Using the definitions of activity, facility and program as found and defined in §§ 21.23 (b) and 21.23 (e) of 49 CFR § 21, the sponsor will facilitate all programs, operate all facilities, or conduct all programs in compliance with all non-discrimination requirements imposed by, or pursuant to these assurances.
- b. Applicability
 - 1) Programs and Activities. If the sponsor has received a grant (or other federal assistance) for any of the sponsor's program or activities, these requirements extend to all of the sponsor's programs and activities.
 - 2) Facilities. Where it receives a grant or other federal financial assistance to construct, expand, renovate, remodel, alter or acquire a facility, or part of a facility, the assurance extends to the entire facility and facilities operated in connection therewith.

- 3) Real Property. Where the sponsor receives a grant or other Federal financial assistance in the form of, or for the acquisition of real property or an interest in real property, the assurance will extend to rights to space on, over, or under such property.

c. Duration.

The sponsor agrees that it is obligated to this assurance for the period during which Federal financial assistance is extended to the program, except where the Federal financial assistance is to provide, or is in the form of, personal property, or real property, or interest therein, or structures or improvements thereon, in which case the assurance obligates the sponsor, or any transferee for the longer of the following periods:

- 1) So long as the airport is used as an airport, or for another purpose involving the provision of similar services or benefits; or
- 2) So long as the sponsor retains ownership or possession of the property.

d. Required Solicitation Language. It will include the following notification in all solicitations for bids, Requests For Proposals for work, or material under this grant agreement and in all proposals for agreements, including airport concessions, regardless of funding source:

“The **(Name of Sponsor)**, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises and airport concession disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.”

e. Required Contract Provisions.

- 1) It will insert the non-discrimination contract clauses requiring compliance with the acts and regulations relative to non-discrimination in Federally-assisted programs of the DOT, and incorporating the acts and regulations into the contracts by reference in every contract or agreement subject to the non-discrimination in Federally-assisted programs of the DOT acts and regulations.
- 2) It will include a list of the pertinent non-discrimination authorities in every contract that is subject to the non-discrimination acts and regulations.
- 3) It will insert non-discrimination contract clauses as a covenant running with the land, in any deed from the United States effecting or recording a transfer of real property, structures, use, or improvements thereon or interest therein to a sponsor.
- 4) It will insert non-discrimination contract clauses prohibiting discrimination on the basis of race, color, national origin, creed, sex, age, or handicap as a

covenant running with the land, in any future deeds, leases, license, permits, or similar instruments entered into by the sponsor with other parties:

- a) For the subsequent transfer of real property acquired or improved under the applicable activity, project, or program; and
 - b) For the construction or use of, or access to, space on, over, or under real property acquired or improved under the applicable activity, project, or program.
- f. It will provide for such methods of administration for the program as are found by the Secretary to give reasonable guarantee that it, other recipients, sub-recipients, sub-grantees, contractors, subcontractors, consultants, transferees, successors in interest, and other participants of Federal financial assistance under such program will comply with all requirements imposed or pursuant to the acts, the regulations, and this assurance.
- g. It agrees that the United States has a right to seek judicial enforcement with regard to any matter arising under the acts, the regulations, and this assurance.

31. Disposal of Land.

- a. For land purchased under a grant for airport noise compatibility purposes, including land serving as a noise buffer, it will dispose of the land, when the land is no longer needed for such purposes, at fair market value, at the earliest practicable time. That portion of the proceeds of such disposition which is proportionate to the United States' share of acquisition of such land will be, at the discretion of the Secretary, (1) reinvested in another project at the airport, or (2) transferred to another eligible airport as prescribed by the Secretary. The Secretary shall give preference to the following, in descending order, (1) reinvestment in an approved noise compatibility project, (2) reinvestment in an approved project that is eligible for grant funding under Section 47117(e) of title 49 United States Code, (3) reinvestment in an approved airport development project that is eligible for grant funding under Sections 47114, 47115, or 47117 of title 49 United States Code, (4) transferred to an eligible sponsor of another public airport to be reinvested in an approved noise compatibility project at that airport, and (5) paid to the Secretary for deposit in the Airport and Airway Trust Fund. If land acquired under a grant for noise compatibility purposes is leased at fair market value and consistent with noise buffering purposes, the lease will not be considered a disposal of the land. Revenues derived from such a lease may be used for an approved airport development project that would otherwise be eligible for grant funding or any permitted use of airport revenue.
- b. For land purchased under a grant for airport development purposes (other than noise compatibility), it will, when the land is no longer needed for airport purposes, dispose of such land at fair market value or make available to the Secretary an amount equal to the United States' proportionate share of the fair market value of the land. That portion of the proceeds of such disposition which is proportionate to the United States' share of the cost of acquisition of such land will, (1) upon application to the Secretary, be reinvested or transferred to another

eligible airport as prescribed by the Secretary. The Secretary shall give preference to the following, in descending order: (1) reinvestment in an approved noise compatibility project, (2) reinvestment in an approved project that is eligible for grant funding under Section 47117(e) of title 49 United States Code, (3) reinvestment in an approved airport development project that is eligible for grant funding under Sections 47114, 47115, or 47117 of title 49 United States Code, (4) transferred to an eligible sponsor of another public airport to be reinvested in an approved noise compatibility project at that airport, and (5) paid to the Secretary for deposit in the Airport and Airway Trust Fund.

- c. Land shall be considered to be needed for airport purposes under this assurance if (1) it may be needed for aeronautical purposes (including runway protection zones) or serve as noise buffer land, and (2) the revenue from interim uses of such land contributes to the financial self-sufficiency of the airport. Further, land purchased with a grant received by an airport operator or owner before December 31, 1987, will be considered to be needed for airport purposes if the Secretary or Federal agency making such grant before December 31, 1987, was notified by the operator or owner of the uses of such land, did not object to such use, and the land continues to be used for that purpose, such use having commenced no later than December 15, 1989.
- d. Disposition of such land under (a) (b) or (c) will be subject to the retention or reservation of any interest or right therein necessary to ensure that such land will only be used for purposes which are compatible with noise levels associated with operation of the airport.

32. Engineering and Design Services.

It will award each contract, or sub-contract for program management, construction management, planning studies, feasibility studies, architectural services, preliminary engineering, design, engineering, surveying, mapping or related services with respect to the project in the same manner as a contract for architectural and engineering services is negotiated under Title IX of the Federal Property and Administrative Services Act of 1949 or an equivalent qualifications-based requirement prescribed for or by the sponsor of the airport.

33. Foreign Market Restrictions.

It will not allow funds provided under this grant to be used to fund any project which uses any product or service of a foreign country during the period in which such foreign country is listed by the United States Trade Representative as denying fair and equitable market opportunities for products and suppliers of the United States in procurement and construction.

34. Policies, Standards, and Specifications.

It will carry out the project in accordance with policies, standards, and specifications approved by the Secretary including but not limited to the advisory circulars listed in the Current FAA Advisory Circulars for AIP projects, dated _____ (the latest approved version as of this grant offer) and included in this grant, and in accordance

with applicable state policies, standards, and specifications approved by the Secretary.

35. Relocation and Real Property Acquisition.

- a. It will be guided in acquiring real property, to the greatest extent practicable under State law, by the land acquisition policies in Subpart B of 49 CFR Part 24 and will pay or reimburse property owners for necessary expenses as specified in Subpart B.
- b. It will provide a relocation assistance program offering the services described in Subpart C and fair and reasonable relocation payments and assistance to displaced persons as required in Subpart D and E of 49 CFR Part 24.
- c. It will make available within a reasonable period of time prior to displacement, comparable replacement dwellings to displaced persons in accordance with Subpart E of 49 CFR Part 24.

36. Access By Intercity Buses.

The airport owner or operator will permit, to the maximum extent practicable, intercity buses or other modes of transportation to have access to the airport; however, it has no obligation to fund special facilities for intercity buses or for other modes of transportation.

37. Disadvantaged Business Enterprises.

The sponsor shall not discriminate on the basis of race, color, national origin or sex in the award and performance of any DOT-assisted contract covered by 49 CFR Part 26, or in the award and performance of any concession activity contract covered by 49 CFR Part 23. In addition, the sponsor shall not discriminate on the basis of race, color, national origin or sex in the administration of its DBE and ACDBE programs or the requirements of 49 CFR Parts 23 and 26. The sponsor shall take all necessary and reasonable steps under 49 CFR Parts 23 and 26 to ensure nondiscrimination in the award and administration of DOT-assisted contracts, and/or concession contracts. The sponsor's DBE and ACDBE programs, as required by 49 CFR Parts 26 and 23, and as approved by DOT, are incorporated by reference in this agreement. Implementation of these programs is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the sponsor of its failure to carry out its approved program, the Department may impose sanctions as provided for under Parts 26 and 23 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1936 (31 U.S.C. 3801).

38. Hangar Construction.

If the airport owner or operator and a person who owns an aircraft agree that a hangar is to be constructed at the airport for the aircraft at the aircraft owner's expense, the airport owner or operator will grant to the aircraft owner for the hangar a long term lease that is subject to such terms and conditions on the hangar as the airport owner or operator may impose.

39. Competitive Access.

- a. If the airport owner or operator of a medium or large hub airport (as defined in section 47102 of title 49, U.S.C.) has been unable to accommodate one or more requests by an air carrier for access to gates or other facilities at that airport in order to allow the air carrier to provide service to the airport or to expand service at the airport, the airport owner or operator shall transmit a report to the Secretary that-
 - 1) Describes the requests;
 - 2) Provides an explanation as to why the requests could not be accommodated; and
 - 3) Provides a time frame within which, if any, the airport will be able to accommodate the requests.
- b. Such report shall be due on either February 1 or August 1 of each year if the airport has been unable to accommodate the request(s) in the six month period prior to the applicable due date.



APPENDIX C
Forecast Approval Letter





U.S. Department
of Transportation

**Federal Aviation
Administration**

Central Region
Iowa, Kansas,
Missouri, Nebraska

901 Locust
Kansas City, Missouri 64106
(816) 329-2600

March 9, 2016

Mr. Eric Johnson
Director of Airports
Metropolitan Topeka Airport Authority
P.O. Box 19053
Topeka, Kansas 66619

Dear Mr. Johnson:

Topeka Regional Airport
AIP Grant No. 03-20-0113-034-2015
Master Plan Update Forecast/Critical Design Aircraft Approval

The Aviation Demand Forecast submitted 2/12/2016 is **APPROVED**.

The existing and proposed ultimate Critical Design Aircraft, C-III family, is **APPROVED**.

Please proceed with developing the remainder of the report and the Airport Layout Plan drawings. If you have any questions regarding this project please call me at (816) 329-2646 or email me at jason.knipp@faa.gov.

Sincerely,

Jason Knipp
FAA Airport Planner - Kansas

cc: Mr. Merrill Atwater, KDOT Aviation Division
Mr. Patrick Taylor, Coffman Associates



APPENDIX D

Supplemental Land Use Materials



Appendix D

SUPPLEMENTAL LAND USE MATERIALS

Airport Master Plan

Topeka Regional Airport

This appendix includes the following land use planning materials available from the City of Topeka and Shawnee County.

- City of Topeka Residential Zoning Matrix
- City of Topeka Civic/Cultural Zoning Matrix
- City of Topeka Municipal Code Chapter 18.205, *Forbes Field and Phillip Billard Airport Hazard Zoning*
- Shawnee County Code Article V., Section 29-181, *Forbes Field and Phillip Billard Airport Hazard Zoning*
- Shawnee County Zoning Ordinance Summary

		Approval Levels																									
		● = Allowed Use S = Allowed per Special Use Requirements under Chapter 18.225 S/C = If unable to meet Special Use Requirements, may apply for CUP. C = Conditional Use Permit (CUP) approved by Governing Body																									
Use	Description	R-1/R-2/R-3 Single Family Dwelling	R-4 Manufactured Homes	M-1 Two Family Dwelling	M-1a Limited Multiple Family Dwelling	M-2 Multiple Family Dwelling	M-3 Multiple Family Dwelling	O&I-1 - Office And Institutional	O&I-2 - Office And Institutional	O&I-3 - Office And Institutional	C-1 Commercial	C-2 Commercial	C-3 Commercial	C-4 Commercial	C-5 Commercial	I-1 Light Industrial	I-2 Heavy Industrial	U-1 University	MS-1 Medical Service	See Design Standards for "X" & "D" Districts						RR-1 Residential Reserve	OS-1 Open Space
																				X-1 Mixed Use	X-2 Mixed Use	X-3 Mixed Use	D-1 Downtown Mixed Use	D-2 Downtown Mixed Use	D-3 Downtown Mixed Use		
Residential																											
Assisted Living Facility #	has individual living units where at least 6 persons receive personal/nursing care	C	C	C	C	●	●	●	●	●	-	-	-	-	-	-	-	-	●	C	C	C	●	C	-	C	-
Bed & Breakfast Home #	owner-occupied home with up to 4 guest rooms	C	-	C	C	S	S	-	-	-	-	-	-	-	-	-	-	-	C	●	C	●	●	●	C	C	-
Bed & Breakfast Inn #	single-family dwelling for up to 10 guests	C	-	C	C	S/C	S/C	C	C	C	●	●	●	●	●	●	●	-	C	●	C	●	●	●	C	C	-
Boarding House #	dwelling where lodging, with or without food, for 3 - 20 persons is provided	-	-	-	-	C	●	-	-	-	-	-	-	-	-	-	-	-	●	C	C	C	●	C	-	-	-
Caretaker's Residence		-	-	-	-	-	-	-	-	-	-	-	●	●	-	●	●	-	-	-	-	-	-	-	-	-	-
Community Living Facility, Type I #	dwelling operation for short-term residential care for improving living skills	-	-	-	-	-	C	-	●	●	-	●	●	●	●	-	-	-	●	-	-	-	●	-	-	-	-
Community Living Facility, Type II #	dwelling operation for residential care providing an intermediate and primary treatment setting	-	-	-	-	-	-	-	C	●	-	●	●	●	●	-	-	-	C	-	-	-	●	-	-	-	-
Correctional Placement Residence or Facility General #	residential/rehabilitation facility occupied by more than 15 individuals	-	-	-	-	-	C	-	C	C	-	-	C	C	-	C	C	-	C	-	-	-	-	-	-	-	-
Correctional Placement Residence or Facility Limited #	residential/rehabilitation facility occupied by 3 to 15 individuals	-	-	-	-	C	C	C	C	C	-	-	-	-	-	-	-	-	C	-	C	-	-	-	-	-	-
Crisis Center, Type I #	may include meals and merchandise to residents	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	-	C	-	●	C	-	-	-
Crisis Center, Type II #	facility used for immediate human social service functions including meals, merchandise or shelter	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	C	-	●	C	-	-	-
Dwelling, Detached Single-Family #		●	-	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	●	●	●	●	-	●	-	●	●
Dwelling, Attached Single-Family #		-	-	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	●	●	●	●	-	●	-	-	-
Dwelling, Two-Family # (Duplex)		-	-	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	●	●	●	●	-	●	-	-	-
Dwelling, Three/Four-Family	includes 3-4 unit row or town houses #	-	-	-	●	●	●	-	-	-	-	-	-	-	-	-	-	-	●	●	●	●	-	●	-	-	-
Dwelling, Multiple-Family #	structure with at least 5 units	-	-	-	-	●	●	-	-	-	-	-	-	-	●	-	-	-	●	C	C	●	●	●	●	-	-
Dwelling Units Above Ground Floor or Basement	other than medical care & community living facility	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	-	-
Dwelling Units on main floor	subordinate to principal non-residential uses	-	-	-	-	-	-	S	S	S	S	S	S	S	S	-	-	-	S	S	S	S	S	S	S	-	-
Group Home #	licensed dwelling for up to 8 with disability & 1 or 2 staff	●	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	●	●	C	C	●	●	●	●	-
Group Residence, General #	dwelling occupied by 9 to 15 persons and at least 8 with a disability	-	-	-	-	C	C	-	C	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	C	-
Group Residence, Limited #	dwelling occupied by up to 10 persons, up to 8 with a disability, and up to 2 staff residents	C	C	C	C	●	●	C	C	-	-	-	-	-	-	-	-	-	●	C	-	-	-	-	-	C	-

		Approval Levels																										
		● = Allowed Use S = Allowed per Special Use Requirements under Chapter 18.225 S/C = If unable to meet Special Use Requirements may apply for CUP. C = Conditional Use Permit (CUP)approved by Governing Body																										
Use	Description	R-1/R-2/R-3 Single Family Dwelling	R-4 Manufactured Homes	M-1 Two Family Dwelling	M-1a Limited Multiple Family Dwelling	M-2 Multiple Family Dwelling	M-3 Multiple Family Dwelling	O&I-1 - Office And Institutional	O&I-2 - Office And Institutional	O&I-3 - Office And Institutional	C-1 Commercial	C-2 Commercial	C-3 Commercial	C-4 Commercial	C-5 Commercial	I-1 Light Industrial	I-2 Heavy Industrial	U-1 University	MS-1 Medical Service	See Design Standards for "X" & "D" Districts						RR-1 Residential Reserve	OS-1 Open Space	
																				X-1 Mixed Use	X-2 Mixed Use	X-3 Mixed Use	D-1 Downtown Mixed Use	D-2 Downtown Mixed Use	D-3 Downtown Mixed Use			
Residential																												
Home Care, type I #	nonsecure dwelling with residential/nursing care for up to 8 care receivers	●	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	●	●	C	C	●	C	-	●	-
Home Care, type II #	nonsecure dwelling with residential/nursing care for up to 12 care receivers	C	C	C	C	●	●	-	-	-	-	-	-	-	-	-	-	-	-	●	C	C	C	●	C	-	C	-
Management/Leasing Facilities	for managing an onsite multi-family community	-	-	S/C	S/C	S/C	S/C	-	-	-	-	-	-	-	-	-	-	-	-	S/C	●	●	●	S/C	S/C	S/C	-	-
Medical Care Facility, type I #	dwelling for the personal nursing care & treatment for up to 2 persons	●	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	●	-
Medical Care Facility, type II #	dwelling for the personal nursing care & treatment for more that 3 persons	-	-	-	-	C	C	C	●	●	-	●	●	●	●	●	●	-	-	●	-	-	-	●	-	-	-	-
Mobile Home #, Manufactured Home #	residential structure manufactured off-site excluding "residential-design manufactured home"	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Residential-Design Manufactured Home #	At least 22' wide on a permanent foundation, pitched roof, and siding/ roofing materials similar to site built homes except in R-4.	●	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	●	●	●	●	●	●	●	●	-
Residential Care Facility, Type I #	nonsecure dwelling in which residential care is provided for children and/or adults on 24-hr basis, up to 4 persons	●	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	●	●	C	C	●	C	-	●	-
Residential Care Facility, Type II #	nonsecure dwelling in which residential care is provided for children and/or adults on 24-hr basis, up to 10 persons	●	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	●	C	C	C	●	C	-	●	-
Residential Care Facility, Type III #	nonsecure dwelling in which residential care is provided to children and/or adults on a 24-hour basis	-	-	-	-	C	●	-	-	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-
Student or Faculty Housing		-	-	-	-	●	●	-	-	-	-	-	-	-	-	-	-	-	●	●	-	-	-	-	-	-	-	-

[illegible]

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Use	Description	R-1/R-2/R-3 Single Family Dwelling	R-4 Manufactured Homes	M-1 Two Family Dwelling	M-1a Limited Multiple Family Dwelling	M-2 Multiple Family Dwelling	M-3 Multiple Family Dwelling	O&I-1 - Office And Institutional	O&I-2 - Office And Institutional	O&I-3 - Office And Institutional	C-1 Commercial	C-2 Commercial	C-3 Commercial	C-4 Commercial	C-5 Commercial	I-1 Light Industrial	I-2 Heavy Industrial	U-1 University	MS-1 Medical Service	See Design Standards for "X" & "D" Districts							RR-1 Residential Reserve	OS-1 Open Space
																				X-1 Mixed Use	X-2 Mixed Use	X-3 Mixed Use	D-1 Downtown Mixed Use	D-2 Downtown Mixed Use	D-3 Downtown Mixed Use			
Civic, Cultural and Recreational																												
Recreation, Indoor Type II # (higher intensity recreational uses)	pool & billiard halls, bowling alleys, arcades, indoor amusement parks, etc.	-	-	-	-	-	-	-	-	-	-	C	C	●	C	●	●	-	-	C	-	●	●	C	●	-	-	
Recreation, Outdoor Type I # (low intensity recreational uses)	tennis, basketball & shuffle board courts, pools, golf courses, horse shoes, etc. in conjunction with a residential community	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Recreation, Outdoor Type II # (medium intensity recreation uses)	batting cages, dog parks, miniature golf, driving ranges, model airplanes airfields, riding academies, etc.	C	C	C	C	C	C	C	C	C	C	C	●	●	●	●	●	●	●	C	C	●	●	●	●	C	C	
Recreation, Outdoor Type III # (high intensity recreation uses)	go kart tracks, horse and auto race tracks, drag strips, amusement and motorized kiddie parks; and sport stadiums, complexes and arenas, etc.	C	-	-	-	-	-	-	-	-	-	-	-	C	-	C	C	C	-	-	●	C	●	●	●	C	C	
Religious Assembly #		S/C	S/C	S/C	S/C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	C	C	●	●	●	S	-
RV Short-Term Campgrounds #	has at least 24 campsites	-	-	-	-	-	-	-	-	-	-	-	●	●	●	●	-	-	-	-	-	-	●	-	-	C	C	
Schools #, Public or Private Educational Facility #	elementary school # and secondary school #	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	
School, Business and Vocational School #	includes technical colleges and training academies	-	-	-	-	-	-	●	●	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	
Youth Camps	retreats for scouting, etc	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	C	C	

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Chapter 18.205 FORBES FIELD AND PHILIP BILLARD AIRPORTS HAZARD ZONING

Sections:

- 18.205.010 Short title.
- 18.205.020 Definitions.
- 18.205.030 Airport zones established.
- 18.205.040 Airport zone height limitations.
- 18.205.050 Use restrictions.
- 18.205.060 Nonconforming uses.
- 18.205.070 Permits.
- 18.205.080 Enforcement of chapter.
- 18.205.090 Penalty for violation of chapter.
- 18.205.100 Conflicting regulations.

Cross References: Metropolitan Topeka airport authority, TMC 2.05.070; planning, Chapters 2.65 and 18.05 TMC; buildings and building regulations, TMC Title 14.

State Law References: Aircraft and airfields, K.S.A. Chapter 3; airport zoning regulations, K.S.A. 3-701 et seq.

18.205.010 Short title.

This chapter shall be known and may be cited as "Forbes Field and Philip Billard Airports hazard zoning." (Code 1981 § 4-55. Code 1995 § 22-26.)

18.205.020 Definitions.

The following words, terms and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

"Airport" means the Forbes Field Airport and the Philip Billard Airport.

"Airport elevation" means the highest point of an airport's usable landing area measured in feet from mean sea level.

"Airport hazard" means any structure or object of natural growth located on or in the vicinity of a public airport, or any use of land near such airport, which obstructs the airspace required for the flight of aircraft in landing or takeoff at such airport or is otherwise hazardous to such landing or takeoff of aircraft.

Approach, Transitional, Horizontal and Conical Zones. These zones apply to the area under the approach, transitional, horizontal and conical surfaces defined in Federal Aviation Regulation Part 77.

"Board of zoning appeals" means a board consisting of not less than three nor more than seven members appointed by the board of county commissioners or the mayor of the city.

Height. For the purpose of determining the height limits in all zones set forth in this chapter and shown on the zoning map, the datum shall be mean sea level elevation unless otherwise specified.

"Nonconforming use" means any preexisting structure, object of natural growth, or use of land which is inconsistent with the provisions of this chapter or any amendment thereto.

"Nonprecision instrument runway" means a runway having an existing instrument approach procedure utilizing air navigation facilities with only horizontal guidance, or area-type navigation equipment, for which a straight-in nonprecision instrument approach procedure has been approved or planned, and for which no precision approach facilities are planned or indicated on an FAA planning document or military service's military airport planning document.

"Person" means an individual, firm, partnership, corporation, company, association, joint stock association or governmental entity. It includes a trustee, receiver, assignee or similar representative of any of them.

"Precision instrument runway" means a runway having an existing instrument approach procedure utilizing an instrument landing system (ILS) or a precision approach radar (PAR). It also means a runway for which a precision approach system is planned and is so indicated on an FAA-approved airport layout plan or a military service's military airport planning document.

"Primary surface" means a surface longitudinally centered on a runway. When the runway has a specially prepared hard surface, the primary surface extends 200 feet beyond each end of that runway; but when the runway has no specially prepared hard surface, or planned hard surface, the primary surface ends at each end of that runway.

The width of the primary surface of a runway will be that width prescribed in Part 77 of the Federal Aviation Regulations (FAR) for the most precise approach existing or planned for either end of that runway. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline.

"Runway" means a defined area of an airport prepared for the landing and takeoff of aircraft along its length.

"Structure" means an object constructed or installed by man, including, but without limitation, buildings, towers, smokestacks, earth formations and overhead transmission lines.

"Tree" means any object of natural growth.

"Utility runway" means a runway that is constructed for an intended use by propeller-driven aircraft of 12,500 pounds maximum gross weight and less.

"Visual runway" means a runway intended solely for the operation of aircraft using visual approach procedures with no straight-in instrument approach procedure and no instrument designation indicated on an FAA-approved [airport](#) layout plan, a military service's approved military [airport](#) layout plan, or by a planning document submitted to the FAA by competent authority. (Code 1981 § 4-56. Code 1995 § 22-27.)

Cross References: Definitions generally, TMC 1.10.020.

18.205.030 [Airport](#) zones established.

(a) Zones Defined. In order to carry out the provisions of this chapter, there are hereby created and established certain zones which include all of the land lying within the approach zones, transitional zones, horizontal zones, and conical zones as they apply to a particular [airport](#). Such zones are shown on the [airport](#) hazard zoning map prepared by the Metropolitan Topeka [Airport](#) Authority which is attached to Ordinance No. 14650 and made a part of this chapter by reference. An area located in more than one of the following zones is considered to be only in the zone with the more restrictive height limitation. The various zones are hereby established and defined as follows:

- (1) Utility Runway Visual Approach Zone. The inner edge of the utility runway visual approach zone coincides with the width of the primary surface and is 500 feet wide. The approach zone expands outward uniformly to a width of 1,250 feet at a horizontal distance of 5,000 feet from the primary surface, its centerline being the continuation of the centerline of the runway.
- (2) Runway Larger Than Utility Visual Approach Zone. The inner edge of this approach zone coincides with the width of the primary surface and is 500 feet wide. The approach zone expands outward uniformly to a width of 1,500 feet at a horizontal distance of 5,000 feet from the primary surface, its centerline being the continuation of the centerline of the runway.
- (3) Runway Larger Than Utility with a Visibility Minimum Greater Than Three-Fourths-Mile Nonprecision Instrument Approach Zone. The inner edge of this approach zone coincides with the width of the primary surface and is 500 feet wide. The approach zone expands outward uniformly to a width of 3,500 feet at a horizontal distance of 10,000 feet from the primary surface, its centerline being the continuation of the centerline of the runway.
- (4) Runway Larger Than Utility with a Visibility Minimum as Low as Three-Fourths-Mile Nonprecision Instrument Approach Zone. The inner edge of this approach zone coincides with the width of the primary surface and is 1,000 feet wide. The approach zone expands outward uniformly to a width of 4,000 feet at a horizontal distance of 10,000 feet from the primary surface, its centerline being the continuation of the centerline of the runway.
- (5) Precision Instrument Runway Approach Zone. The inner edge of the precision instrument runway approach zone coincides with the width of the primary surface and is 1,000 feet wide. The approach zone expands outward uniformly to a width of 16,000 feet at a horizontal distance of 50,000 feet from the primary surface, its centerline being the continuation of the centerline of the runway.
- (6) Transitional Zones. Transitional zones are hereby established as the area beneath the transitional surfaces. These surfaces extend outward and upward at a 90-degree angle to the runway centerline and the runway centerline extended at a slope of seven feet horizontally for each foot vertically from the sides of the primary and approach surfaces to where they intersect the horizontal and conical surfaces. Transitional zones for those portions of the precision approach zones which project through and beyond the limits of the conical surface extend a distance of 5,000 feet measured horizontally from the edge of the approach and at 90-degree angles to the extended runway centerline.
- (7) Horizontal Zone. The horizontal zone is hereby established by swinging arcs of specified radii from the center of each end of the primary surface to each runway. The radius of each arc is 5,000 feet for all runways designated as utility or visual; and 10,000 feet for all other runways. The radius of the arc specified for each end of a runway will have the same arithmetical value. That value will be the highest determined for either end of the runway. When a 5,000-foot arc is encompassed by tangents connecting two adjacent 10,000-foot areas, the 5,000-foot arc shall be disregarded on the construction of the perimeter of the horizontal surface, and connecting the adjacent arcs by drawing lines tangent to those arcs. The horizontal zone does not include the approach and transitional zones.
- (8) Conical Zone. The conical zone is hereby established as the area that commences at the periphery of the horizontal zone and extends outward there from a horizontal distance of 4,000 feet. The conical zone does not include the precision instrument approach zones and the transitional zones.

(b) Determination of Zones Where Uncertainty May Arise. The location of all zones as indicated and described on the [airport](#) zoning map shall prevail where there is uncertainty in application to any or all lands located within such zones. Such determination of the zones, including all real property, shall be made by scaling and using mathematical methods in conjunction with property descriptions. The responsibility for making such determination shall be with the Topeka-Shawnee County metropolitan planning commission staff. (Code 1981 § 4-57. Code 1995 § 22-28.)

Cross References: Planning commission, Chapter 2.65 TMC.

State Law References: Zones authorized, K.S.A. 3-703.

18.205.040 [Airport](#) zone height limitations.

Except as otherwise provided in this chapter, no structure or tree shall be erected, altered, allowed to grow, or be maintained in any zone created by this chapter to a height in excess of the height limit established in this section for such zone. Such applicable height limitations are hereby established for each of the zones in question as follows:

- (a) Utility Runway Visual Approach Zone. Slopes upward 20 feet horizontally for each foot vertically, being at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 5,000 feet along the extended runway centerline.
- (b) Runway Larger Than Utility Visual Approach Zone. Slopes upward 20 feet horizontally for each foot vertically beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 5,000 feet along the extended runway centerline.
- (c) Runway Larger Than Utility with a Visibility Minimum Greater Than Three-Fourths-Mile Nonprecision Instrument Approach Zone. Slopes upward 34 feet horizontally for each foot vertically beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 10,000 feet along the extended runway centerline.

(d) Runway Larger Than Utility with a Visibility Minimum as Low as Three-Fourths-Mile Nonprecision Instrument Approach Zone. Slopes upward 34 feet horizontally for each foot vertically beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 10,000 feet along the extended runway centerline.

(e) Precision Instrument Runway Approach Zone. Slopes upward 50 feet horizontally for each foot vertically beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 10,000 feet along the extended runway centerline; thence slopes upward 40 feet horizontally for each foot vertically to an additional horizontal distance of 40,000 feet along the extended runway centerline.

(f) Transitional Zones. Slopes upward and outward seven feet horizontally for each foot vertically beginning at the sides of and at the same elevation as the primary surface and the approach zones, and extending to a height of 150 feet above the [airport](#) elevation which is 1,079 feet above mean sea level at Forbes Field and 880 feet above mean sea level at Philip Billard [Airport](#). In addition to the foregoing, there are established height limits sloping upward and outward seven feet horizontally for each foot vertically beginning at the sides of and at the same elevation as the approach zones, and extending to where they intersect the conical surface. Where the precision instrument runway approach zone projects beyond the conical zone, height limits sloping upward and outward seven feet horizontally for each foot vertically shall be maintained beginning at the sides of and at the same elevation as the precision instrument runway approach surface, and extending to a horizontal distance of 5,000 feet measured at 90-degree angles to the extended runway centerline.

(g) Horizontal Zone. One hundred fifty feet above the [airport](#) elevation or a height of 1,229 feet above sea level at Forbes Field and 1,030 feet above mean sea level at Philip Billard [Airport](#).

(h) Conical Zone. Slopes upward and outward 20 feet horizontally for each foot vertically beginning at the periphery of the horizontal zone and at 150 feet above the [airport](#) elevation and extending to a height of 350 feet above the [airport](#) elevation.

(i) Excepted Height Limitations. Nothing in this section shall be construed as prohibiting the growth, construction or maintenance of any tree or structure to a height up to 75 feet above the surface of the land.

Where an area is covered by more than one height limitation, the more restrictive limitation shall prevail. (Code 1981 § 4-58. Code 1995 § 22-29.)

State Law References: Height restrictions authorized, K.S.A. 3-703.

18.205.050 Use restrictions.

Notwithstanding any other provisions of this chapter, no use may be made of land or water within any zone established by this chapter in such a manner as to:

- (a) Create electrical interference with navigational signals or radio communication between [airport](#) and aircraft;
- (b) Make it difficult for pilots to distinguish between [airport](#) lights and others;
- (c) Result in a glare in the eyes of pilots using the [airport](#);
- (d) Impair visibility in the vicinity of the [airport](#); or
- (e) Otherwise in any way create a hazard or endanger the landing, takeoff or maneuvering of aircraft intending to use the [airport](#). (Code 1981 § 4-59. Code 1995 § 22-30.)

State Law References: Use restrictions authorized, K.S.A. 3-703.

18.205.060 Nonconforming uses.

(a) Regulations Not Retroactive. The regulations prescribed by this chapter shall not be construed to require the removal, lowering or other changes or alteration of any structure or tree not conforming to the regulations as of May 13, 1980, or otherwise interfere with the continuance of nonconforming use.

(b) Marking and Lighting. Notwithstanding the provisions of subsection (a) of this section, the owner of any existing nonconforming structure or tree is hereby required to permit the installation, operation and maintenance thereon of such markers and lights as shall be deemed necessary by the executive director of the metropolitan [airport](#) authority to indicate to the operators of aircraft in the vicinity of the [airport](#) the presence of such [airport](#) hazards. Such markers and lights shall be installed, operated and maintained at the expense of the metropolitan Topeka [airport](#) authority. (Code 1981 § 4-60. Code 1995 § 22-31.)

State Law References: Nonconforming uses, K.S.A. 3-706.

18.205.070 Permits.

(a) Future Uses. No material change shall be made in the use of land and no structure or tree shall be erected, altered, planted or otherwise established in any zone created under this chapter unless a permit therefor shall have been applied for and granted.

(1) However, a permit for a tree or structure of less than 75 feet of vertical height above the ground shall not be required in the horizontal and conical zones or in any approach and transitional zones beyond a horizontal distance of 4,200 feet from each end of the runway, except when such tree or structure, because of terrain, land contour or topographic features, would extend above the height limit prescribed for the respective zone.

(2) Each application for a permit shall indicate the purpose for which the permit is desired, with sufficient particulars to determine whether the resulting use, structure or tree would conform to the regulations prescribed in this chapter. If such determination is in the affirmative, the permit shall be granted.

(b) Existing Uses. No permit shall be granted that would allow the establishment or creation of an [airport](#) hazard or permit a nonconforming use, structure or tree to become a greater hazard to air navigation than it was on May 13, 1980, or on the effective date of any amendments to this chapter, or than it is when the application for a permit is made. Except as indicated, all applications for such a permit shall be granted.

(c) Nonconforming Uses Abandoned or Destroyed. Whenever the chief building inspector or county zoning administrator, within his respective jurisdiction, determines that a nonconforming tree or structure has been abandoned or more than 80 percent torn down, physically deteriorated or decayed, no permit shall be granted that would allow such structure or tree to exceed the applicable height limit or otherwise deviate from the zoning regulations.

(d) Variances. Any person desiring to erect or increase the height of any structure, or permit the growth of any tree, or use his property not in accordance with the regulations prescribed in this chapter may apply to the city or county board of zoning appeals, dependent upon jurisdiction, for a variance from such regulations. Such variances shall be allowed where it is duly found that a literal application or enforcement of the regulations would result in practical difficulty or unnecessary hardship and relief granted would not be contrary to the public interest but will do substantial justice and be in accordance with the spirit of this chapter.

(e) Hazard Marking and Lighting. Any permit or variance granted, if such action is deemed advisable to effectuate the purpose of this chapter and to be reasonable under the circumstances, may be so conditioned as to require the owner of the structure or tree in question to permit the metropolitan Topeka **airport** authority, at its own expense, to install, operate and maintain thereon such markers and lights as may be necessary to indicate to pilots the presence of an **airport** hazard. (Code 1981 § 4-61. Code 1995 § 22-32.)

Cross References: Board of zoning appeals, Chapter 2.45 TMC.

State Law References: Permits and variances, K.S.A. 3-707.

18.205.080 Enforcement of chapter.

It shall be the duty of the code enforcement director of the city or the county zoning administrator to administer and enforce the regulations prescribed in this chapter. Applications for a variance shall be made to the appropriate enforcement agency upon a form furnished by it. Applications required by this chapter to be submitted to the code enforcement director of the city or to the county zoning administrator shall be promptly considered and granted or denied. Application for action by the city or county board of zoning appeals shall be forthwith transmitted by the appropriate enforcement officer. (Code 1981 § 4-62. Code 1995 § 22-33.)

Cross References: Board of zoning appeals, Chapter 2.45 TMC; building code enforcement division, Chapter 2.50 TMC.

18.205.090 Penalty for violation of chapter.

Each violation of this chapter or of any regulation, order or ruling promulgated under this chapter shall constitute a misdemeanor and be punishable as provided in TMC 1.10.070. (Code 1981 § 4-63. Code 1995 § 22-34.)

State Law References: Judicial enforcement of **airport** zoning ordinances, K.S.A. 3-710.

18.205.100 Conflicting regulations.

Where there exists a conflict between any of the regulations or limitations prescribed in this chapter and any other regulations applicable to the same area, whether the conflict is with respect to the height of structures or trees, the use of land, or any other matter, the more stringent limitation or requirement shall govern and prevail. (Code 1981 § 4-64. Code 1995 § 22-35.)

State Law References: Similar provisions, K.S.A. 3-704.

The Topeka Municipal Code is current through Ordinance 19997, passed May 3, 2016, and Charter Ordinance No. 117, passed February 9, 2016.

Disclaimer: The City Clerk's Office has the official version of the Topeka Municipal Code. Users should contact the City Clerk's Office for ordinances passed subsequent to the ordinance cited above.

City Website: <http://www.topeka.org/> (<http://www.topeka.org/>)

City Telephone: (785) 368-3940

Code Publishing Company (<http://www.codepublishing.com/>)

Sec. 29-103. Planning Director Functions.

The Planning Director is authorized to employ, and terminate the employment of all other employees of the County Planning and Zoning Department as he or she may deem necessary to the expeditious handling of the department. The Planning Director shall be responsible for developing, directing, implementing and administering the short- and long-range planning programs to insure orderly growth in the unincorporated areas of Shawnee County. The Planning Director will oversee and supervise what was formerly known as the Shawnee County Zoning and Development Office, including the County Zoning Administrator. The Planning Director shall promote efficient use of County resources in compliance with resolutions, state statutes, policies and procedures pertaining to land use, development, zoning, and economic development. The Planning Director shall serve as Secretary to the County Planning Commission and perform the functions set forth in § 29-54. The Planning Director shall perform other functions as directed by the Board.
(Code 2006; History: H.R. Res. 2003-14, § 2[c])

Secs. 29-104 — 29-150. Reserved.

ARTICLE IV. ADDRESSES

Sec. 29-151. Authorization To Change Addresses.

(A) The County Zoning Administrator is hereby authorized to correct the out of sequence numbered addresses by assigning new addresses.

(B) The owner of any property whose address is changed pursuant to this section may appeal the County Zoning Administrator's decision to the Board.
(Code 2006; History: Res. 1996-209, §§ 1-2)

Sec. 29-152. Authorization To Establish House Numbering System.

The County Planning Commission is hereby authorized to establish a uniform house numbering system for all homes in Shawnee County not located in incorporated cities, and to assign numbers accordingly as soon as practicalities permit.
(Code 2006; History: Res. 1968-74)

Secs. 29-153 — 29-180. Reserved.

ARTICLE V. AIRPORTS

Sec. 29-181. Forbes Field And Phillip Billard Airport Hazard Zoning.

There are hereby incorporated by reference, as if set out fully herein, the airport regulations adopted by the governing bodies of the City of Topeka, Kansas, and Shawnee County, Kansas, as prepared by the Topeka Planning Commission. Copies of these regulations may be found in the office of the County Clerk (200 S.E. 7th Street), the Topeka Planning Department (515 S. Kansas Avenue), and City of Topeka Code, Article II, Forbes Field and Phillip Billard Airport Hazard Zoning, §§ 22-26 *et seq.*
(Code 2006)

Comprehensive Zoning Regulations for Unincorporated Shawnee County, Kansas

Source: http://www.sncok.us/planning/commission_descriptions.asp

RA-1 – Rural Agriculture District

This district is intended to provide for the conservation, preservation and protection of farmland and to protect agricultural activities from encroachment of non-agricultural activities, which are primarily urban in character and lacking essential utility and community services. Permits numerous agricultural associated commercial uses and other rural oriented uses as conditional use permits, and single-family dwellings on three (3) acre minimum sites. Height limit: 42 feet.

RR-1 – Residential Reserve District

This district is intended to provide a transitional area between urbanized development and rural-agricultural areas, and is expected to become urbanized in subsequent planning periods upon the availability and extension of municipal services and facilities. Provides for uses similar to "RA-1" District including single-family dwellings on three (3) acre minimum sites. Height limit: 42 feet.

R-1 – Single Family Dwelling District

This district is intended to provide for development of single-family detached neighborhoods and to permit other uses customarily associated with residential neighborhoods such as group homes, parks, schools, religious assemblies, day care facilities, among others; and numerous non-residential uses such as recreation fields, cultural facilities, community centers, bed and breakfast inns, and other uses as conditional use permits. Establishes a minimum lot area of 6,500 square feet for single-family dwellings and maximum height limit: 42 feet.

M-1 – Two Family Dwelling District

This district provides for the development of single-family detached and two-family (duplex) dwellings with other uses similar to the "R-1" District. Requires a minimum lot area of 4,000 square feet for single-family dwellings and 4,500 square feet for two-family dwellings, and sets a maximum height of 45 feet.

M-1a – Limited Multiple Family Dwelling District

This district provides for the development of single-family detached, two-family (duplex) dwellings, and multi-family dwellings containing not more than four (4) dwelling units. Requires a minimum lot area of 4,000 square feet for single-family dwellings; 4,500 square feet for two-family dwellings; 4,350 square feet per dwelling units for multi-family dwellings; and, sets a maximum height of 45 feet.

M-2 – Multiple Family Dwelling District

This district provides for the development of single-family detached, two-family, and multiple-family dwellings and other related uses such as boarding and lodging houses, parks (public or private), schools, residential and medical care facilities, group homes, sororities and fraternities. Non-residential uses customarily associated with residential neighborhoods are also permitted by conditional use permit. Establishes minimum lot areas requirements of 3,500 square feet for single-family dwellings; 4,000 square feet for a two-family dwelling; and 1,500 square feet per dwelling unit for multi-family dwellings. Sets a maximum height of 50 feet.

O & I-1 – Office And Institutional

This district is intended to provide for a limited range of general purpose office uses of low to moderate intensity to encourage compatibility with adjacent residential development. Other permitted uses include cultural facilities, broadcasting studios, schools, and parks, and other compatible uses such as churches, bed and breakfast inns, small animal hospitals or clinics, community centers, and dwelling located above the ground floor. The district establishes a maximum ground floor area of 7,500 square feet and a total building area of 15,000 square feet. Maximum height permitted is 42 feet.

O & I-2 – Office And Institutional

This district provides for an expanded listing of office, institutional, business and service types of uses such as funeral homes, community living facilities, business or vocational schools, private membership associations, and other compatible uses similar to the "O & I-1" District. Establishes a maximum ground floor area of 20,000 square feet and a maximum height limit of 75 feet.

O & I-3 – Office And Institutional

This district provides for a broad range of office, institutional, business, and service type uses and is intended to provide for a high intensity of use of considerable magnitude, located on a sufficient land area to accommodate the factors of employment, transportation, and other land use considerations. There is no height limitation except when in conflict with Airport Hazard Zone Regulations.

C-1 – Commercial District

This district provides for limited commercial facilities, which are to serve as convenient services to a residential neighborhood or limited geographic area of the community. Requires an increased building setback or screening when located adjacent to an "R" District; establishes a maximum gross floor area of 4,000 square feet for single tenant businesses; a maximum gross floor area of 15,000 square feet for multi-tenant structures; with no individual tenant space exceeding 2000 square feet; prohibits outdoor storage and display of goods and merchandise; and, sets a maximum height limit of 35 feet.

C-2 – Commercial District

This district provides for limited commercial facilities, which are to serve as convenient services to a residential neighborhood or limited geographic area of the community. Requires an increased building setback or screening when located adjacent to an "R" District; establishes a maximum gross floor area of 50,000 square feet prohibits outdoor storage and display of goods and merchandise; and, sets a maximum height limit of 60 feet.

C-3 – Commercial District

This district permits a broad range of commercial uses considered more intensive than those permitted in the "C-2" District. Permits the outdoor storage and display of supplies, materials, products and equipment only in relation to gardening and yard supplies and vehicle sale. Not subject to a maximum ground floor area but does establish a maximum building height of 70 feet.

C-4 –Commercial District

This district is intended to provide for commercial uses and activities, which serve as community or regional service areas. Uses and activities are characterized by outdoor display, storage and/or sale of merchandise, by repair of motor vehicles, by outdoor commercial amusement and recreational activities, or by activities conducted in buildings not completely enclosed. Establishes a maximum height limit of 70 feet.

I-1 – Light Industrial District

This district provides for all "C-4" District uses and a wide range of light industrial uses which are not considered obnoxious or offensive by reason of odor, dust, smoke, gas or noise. There are no minimum yard requirements unless abutting a dwelling district and no maximum height requirement except subject to Airport Hazard Zone Regulations.

I-2 – Heavy Industrial District

This district provides for all "I-1" District uses including additional heavy industrial uses subject to approval by the Governing Body following a report from the applicable Fire Department and Health Agency. Dimensional requirements are the same as the "I-1" District.

PUD – Planned Unit Development District

This district is intended to provide flexibility in the use and design of land and structures to encourage more creative and innovative development; promote efficient land use with smaller networks of utilities and streets; encourage the preservation and best use of the natural features of the site; and, to

accommodate the integration of multiple uses into a single development. All development to be in accordance with approved Master and Final Plans.

OS-1 – Open Space District

The open space district is intended to preserve and protect existing and potential public park land, open land, greenways, recreational space, floodways, trails and lands that have other physical, aesthetic or cultural characteristics which preclude their inclusion in other less restrictive districts. It is intended that these areas provide opportunities for passive and active outdoor recreation, preserve scenic views, and protect sensitive or fragile environmental areas. It is further the intent of this district to protect these areas from urban, non-open space or incompatible development.